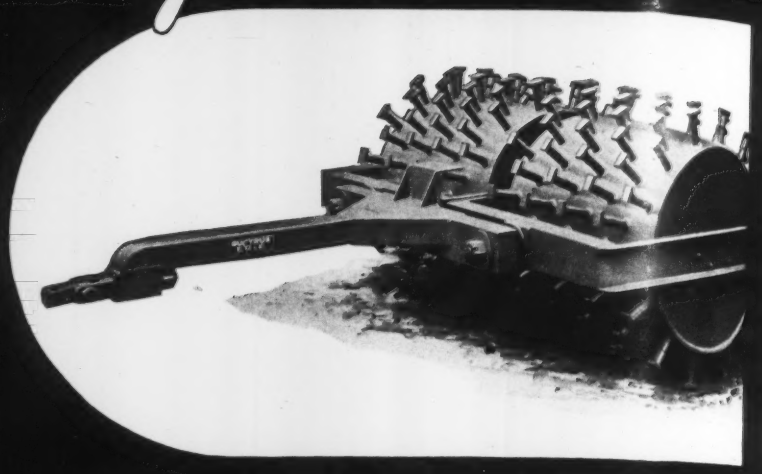
ENGINEERING NEWS-RECORD

Pile foundation for 40-ft. diameter boring mill proceeds without plant interruption — *See page 4*

Announcing . . .

BUCYRUS ERIE

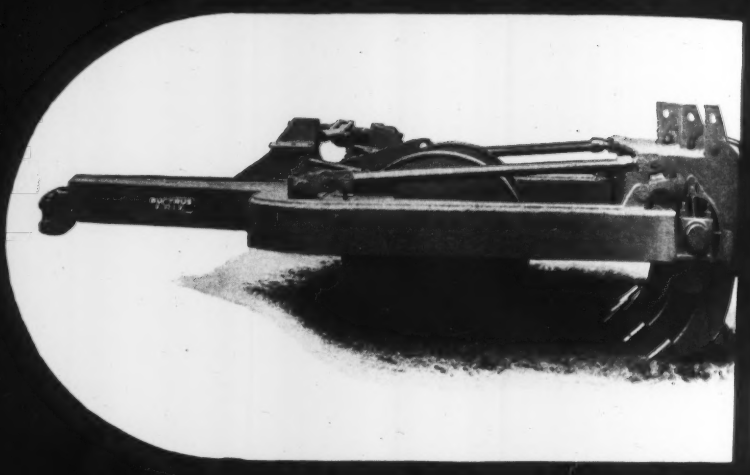
Tamping Roller



Single, double, and triple drum models, all with rear pull connections for working in trains. Each drum has an opening for filling with ballast and a cleaning rake for removing material that sticks between the feet. Oscillating drums on double and triple drum models. When tamping feet become worn, they are removed and easily replaced without welding, and at a fraction of the cost of welding. For further particulars, on these and other features, see your International Harvester TracTracTor Dealer.

BUCYRUS ERIE

Rotary Ripper



The Rotary Ripper is especially effective for ripping in material that contains boulders and heavy roots. The ripping standards are raised and lowered quickly by complete rotation of the head, which swings the standards up and back and around to ripping position again in a hurry. Rotation of head also dislodges rocks and debris caught between the standards. No auxiliary power equipment needed on the tractor. Get more details on all features from your International Harvester TracTracTor Dealer.

BUCYRUS ERIE

HEAVY DUTY Ripper

Makes scraper loading easier . . . faster . . . cheaper, by breaking up tough-digging, hard-loading materials; shale, hardpan, decomposed granite, sandstone, old macadam, etc., etc. Standards will penetrate full length below ground level, or they can be set at any intermediate point, or raised above ground for traveling. There are many other features; find out about them from your International Harvester TracTracTor Dealer.

also BUCYRUS ERIE 2-WHEEL SCRAPERS, 4-WHEEL SCRAPERS, BULLGRADERS, and BULLDOZERS

Bucyrus-Eri

SOUTH MILWAUKEE, WISCONS

The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • APRIL 3, 1941

Building trades promise to outlaw strikes and fees

Executive council of A.F.L. building unions acts to meet criticism of jurisdictional strikes and fee charges on defense construction jobs.

The Building Trades Department of the AFL declared this week in a resolution of the executive council that no strikes would be called on defense jobs because of jurisdictional disputes between members of the department. It was also decided that contractors "fair to organized labor" (presumably those having union contracts), would be permitted to employ non-union men on defense projects when the building trades union were unable to provide men. Furthermore, such non-union men would not be charged any work permit or other fees "except where they can qualify for membership and have been requested to join the appropriate union and have been accepted into membership." Initiation fees charged new members of the union, it was declared, "shall be the minimum possible in view of the benefits extended by the union organizations."

The declaration on jurisdictional strikes reiterates in a formal way the statement to the same effect made by William Green in January. Its effectiveness is, of course, dependent on the extent to which the building trades department is able to exert its always shaky control over the component internationals.

Probably more significant in the long run is the declaration on employment of non-union men. This appears to rule out the now rather common situation in which men are not admitted to the full privileges of union membership but are charged fees of varying size to be allowed to work alongside union men. In effect, it is now decided that men will either be taken into the union or they won't be charged anything. To what extent men will actually be asked to join is not clear. The top leadership probably intends only to bring in bona fide craftsmen, but actual application will probably vary with local conditions.

Some loosening of craft lines on defense jobs may also be indicated in the phrasing which says that non-union men may be employed until "the various unions" can supply members. It is understood that arrangements may be worked out by which a union might assign men to a different trade if the union in that trade could not fill the job.

Contractors must pay unemployment taxes

Contractors holding federal cost-plus-fixed-fee contracts must pay state unemployment compensation taxes but are entitled to include such payments in the cost of the work, according to a ruling of the U. S. Comptroller General. The ruling is based on the peculiar federal-state nature of the unemployment compensation system and appears not to bear on the more general question of applicability of local and state taxes to such work. The War Department has taken the position that such taxes are not applicable and has been supported in this view by the President. However the legal question is still not clear, and a study of the matter is being carried on by the Treasury Department.

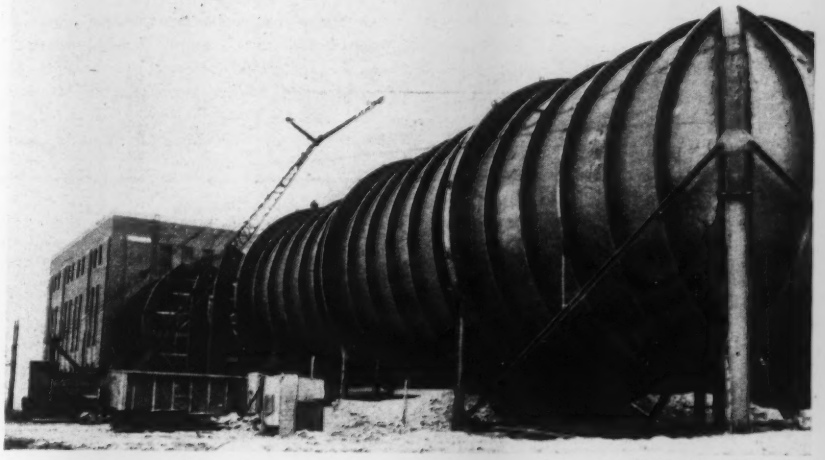


Photo by Wide World

Wind tunnel to test aircraft models at Wright Field

Supplementing two existing tunnels, one of 5-ft. and the other of 14-in. jet diameter, the Army has under construction at Wright Field, Dayton, Ohio, a new wind tunnel capable of testing airplane models of approximately 15-ft. span; simulating actual flying conditions and speeds of approximately 400 mph and at air pressures comparable to altitudes of from 3,000 to 4,000 ft.

Made of 700 tons of sheet and structural steel, the tunnel will be a closed tube of circular cross section, varying in diameter from a maximum of 45 ft. to a minimum of 20 ft. at the testing section; total circuit length along the centerline of the tunnel will be 616 ft.

The model-testing section of the wind tunnel will actually form a part of the 58-ft. high test building constructed of reinforced concrete. All power equipment will be housed in a separate building.

Wind pressure will be supplied by a 75 hp. Westinghouse Electric & Mfg. Co. motor. General contractors for the project are the National Concrete Fireproofing Co., Cleveland, Ohio.

Camp Shelby completed on time and below cost

In record-breaking time and at a cost under the original estimates, Camp Shelby, at Hattiesburg, Miss., was officially completed and accepted by the Army Mar. 13.

Just six months ago the first of 17,000 workmen started on the initial job of clearing the site, which covers 5,185 acres. From the day construction operations started the project was "on or ahead" of schedule, and now on its completion it is the first of forty-six such training centers in the national defense program to be finished. Primarily, Shelby is a tent camp for artillery and will care for 67,976 troops.

Included in the project are approximately 15,000 buildings: including 13,000 floored tent frames, 414 mess halls, 80 warehouses, a 2,000-bed hospital, 56 administration buildings, two laundries (costing approximately $1,000,000), 34 post exchanges, 85 mi. of water mains, 60 mi. of sewer mains, and 59 mi. of hard surfaced roads (approximately 15 mi. of concrete and 43½ mi. of asphalt). There are 28 corrugated steel ammunition igloos, an activated sludge sewage treatment plant, a power plant (supplying heat for the 2000-bed hospital), and a water system of 5,256,000 gal. per day.

Original estimated construction cost was $22,000,000, and final construction cost is slightly over $20,500,000. J. A. Jones Construction Co., Charlotte, N. C., and A. H. Guion Co., Spartanburg, S. C., were general contractors; with the latter handling all utility construction, including water supply, sewage disposal, roads, clearing and excavation of site. Capt. C. L. Buckham was constructing quartermaster.

Photo by U. S. Army Air Corps

Camp Shelby's 2000-bed hospital unit

The above view shows layout of the 2000-bed hospital, which was built at an approximate cost of $1,800,000 and occupies nearly 80 acres.

Of frame construction on concrete piers, the group includes: an administration building, 9 nurses' quarters, 4 officers' quarters, an officers' mess, 4 medical barracks, general clinic, a clinic and X-ray building, physiotherapy building, a G. U. clinic, 43 standard ward buildings, 17 combination wards, five detention-wards, a patients' mess, 9 storage buildings, an infirmary, dental clinic, 3 recreation buildings, a post exchange, a morgue, and heating plant.

All buildings are connected by passageways, which include 2,600 lin.ft. of covered open walkways and 10,840 lin.ft. of inclosed covered walkways. Heating is by hot water radiation.

TVA flood control survey begun in North Carolina

In response to the request of a delegation of representative citizens of western North Carolina (*ENR*, March 6, 1941, p. 373), the Tennessee Valley Authority is to proceed at once with flood surveys and investigations to determine the most economical and practical method of flood control in the drainage area of the French Broad River, a tributary of the Tennessee.

Members of TVA's water control planning department have been assigned to make a six-month flood control survey of the area, near Asheville, N. C. The survey will be carried out by the following engineers: Sherman W. Woodward, chief water control planning engineer, who is in charge of the party; James S. Bowman, head project planning engineer; Albert S. Fry, head hydraulic research engineer; Joseph H. Kimball, principal hydraulic engineer; Barton M. Jones, consulting design engineer; N. H. Sayford, head civil engineer; Charles W. Okey, principal civil engineer, and M. O. Jensen, assistant hydraulic engineer.

This work is to be undertaken as a result of the damaging floods of last August in this section.

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Speed limit 70 mph. for Pennsylvania Turnpike

A bill establishing 70 mph. as the speed limit for passenger automobiles on the Pennsylvania Turnpike is in the Pennsylvania legislature. Bus speeds would be restricted to 45 mph. while truck speeds vary from 35 to 50 mph. under provisions of the bill.

Courts rescind temporary housing injunction

Acting under a law passed by the 1940 California legislature permitting the direct investment of insurance company funds in low-cost housing projects, the Metropolitan Life Insurance Co. of New York City, had planned and actually awarded contracts for a 2,700-unit housing project at Los Angeles to cost $15,000,000, and another in San Francisco to cost $10,000,000, when a temporary injunction was issued by the Los Angeles Superior Court and the San Francisco Federal Court prohibiting work on the projects.

The temporary injunction has now been rescinded by the courts, and the State Insurance Commissioner has authorized the company to proceed. It is understood work will begin as soon as the contractors can organize their crews.

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Plans being laid for future Army construction

With its cantonment construction program moving toward completion and well out of the engineering stage, the construction division of the Quartermaster Corps is busy setting up its plans for future programs. As a step in this preparation, a meeting was held last month of engineers called in from various cantonment jobs on which good progress has been made. This group went over in detail the standard plans and specifications and procedures that are being used on the cantonments to make recommendations for their improvement on the basis of experience. No startling innovations were suggested, but QM is well satisfied with the concrete recommendations that emerged. Using a standard plan for thousands of identical buildings, a change that will save five dollars per building, represents a worthwhile economy. Meanwhile, the new engineering section in Washington, which has been strengthened by addition of a considerable number of eminent civilian experts (*ENR*, Feb. 6, 1941, p. 197), is reviewing the standards for cantonment construction on the basis of reports from the field and deciding what modifications are necessary. They are giving attention to modifications of the designs to adapt them particularly to local conditions and materials. As the stage of individual project selection is reached, this group will give advice on the technical factors of site selection—water supply, availability of transport, and the like—so as to avoid some of the mistakes that have been made in the present program.

It is not intended that the Washington office do the detailed designing of individual cantonments. This will still be largely farmed out to private firms, with the central office offering more or less of a consulting service. Similarly, the present arrangement by which the two firms of Greeley & Hansen and Metcalf & Eddy give advice on water supply and sewage disposal at camps will continue.

A likely change, however, is greater use of specialist firms in handling detailed design of utilities at individual cantonments. In the present program, the engineer retained for each cantonment has been expected to do all the designing himself, and employment of specialists has been discouraged. This will probably be changed in the next program.

The construction division now has available $15,000,000 to cover the costs of advanced planning of its work.

DeLeuw succeeds Burke on Chicago subways

Ralph H. Burke, who has been chief subway engineer for the Chicago Department of Subways and Superhighways during the design and construction of the first stage of the Chicago subways, has resigned that position to return to his former job of chief engineer of the Chicago Park District. He has been on leave of absence from the Park District since December, 1938. In commenting on the resignation, Commissioner Philip Harrington of the Department of Subways and Superhighways, paid high tribute to Mr. Burke for the manner in which he has directed acquiring the right-of-way and the difficult subway construction.

Charles E. DeLeuw who has been consulting engineer to the subway board gives up that position to become acting chief subway engineer. With the exception of two years with the Fourth United States Engineers during the World War, Mr. DeLeuw's entire professional life since graduation from the University of Illinois in 1912 has been devoted to the practice of engineering and consulting work on railroads, rapid transit systems and highways.

Fire resulting from freak accident wrecks steel bridge in Iowa

Burning gasoline from a tank truck, wrecked a freak accident, caused the failure of a eel truss bridge over the Floyd River on U. S. oute 75 south of Le Mars, Iowa, March 8. e fire occurred when the right front wheel a semi-trailer gasoline transport truck hit e right end post and rode it to the top, using the tractor unit to tip on its left side d skid across the roadway, coming to rest ar the left truss. The trailer unit remained right, and, jamming into the capsized tractor th its cargo of 3,500 gal. of gasoline, ignited There was no explosion and the drivers escaped with only minor injuries. One of the two 90-ft. through pony truss spans collapsed when one truss buckled locally under the terrific heat. The bridge, which was built in 1923, carried a reinforced concrete roadway over transverse steel floorbeams spaced 9 ft. apart.

According to information from E. W. Blumenschein, engineer of bridge design, Iowa State Highway Commission, the collision caused little damage to the structure, except the destruction of a short light angle rail section projecting beyond the end post; the end post was not even visibly bent. However, fifteen minutes of intense heat from the burning gasoline so weakened the top chord and web members in one panel that collapse ensued. It is estimated that the metal was heated to 1,400 or 1,500 deg. F. at the time of failure. Flames licked the under side of the south half of the wrecked span, burning off all of the paint, but insufficient heat developed to produce deformations in the steel below the floor. The accompanying picture was taken in the afternoon after the wreckage had been cleared off the span.

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A total of 120 steel casings are driven to an average depth of 29 ft. by use of a portable15,000-lb. single-acting steam hammer. Bottom of pit is 11½ ft. below floor level.

Driving cap is electrically welded to each of the 10-in. casings, which will later be filled with concrete.

With foundation pad in place, workmen spot forms to bring desired areas above pad level.

Constructing foundations for

J. B. George

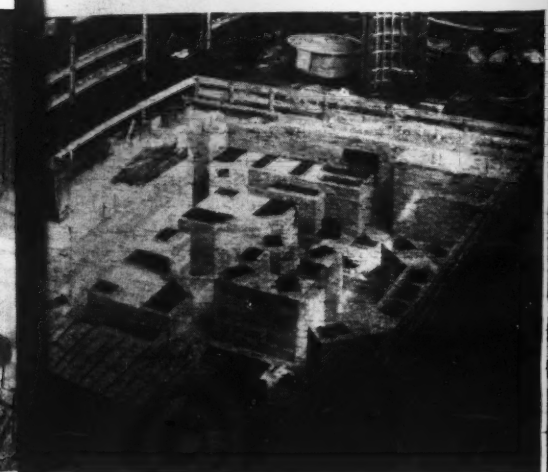
Works Architect, Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Despite the fact that construction had to be carried on in a busy assembly aisle without interruption to normal operations in other parts of the plant, the foundation for a 40-ft. diameter boring mill, believed to be the world's largest, was recently completed in 53 days at the East Pittsburgh works of the Westinghouse Electric and Manufacturing Co. Work started with removal of 1,050 cu.yd. of excavation or to a depth of 11½ ft. below floor level. Tests revealed that the clay on loose shale below that level would safely support 2,000 lb. per sq.ft. but not that imposed by the 705,800 lb. weight of the mill and the estimated maximum live level of 576,000 lbs.

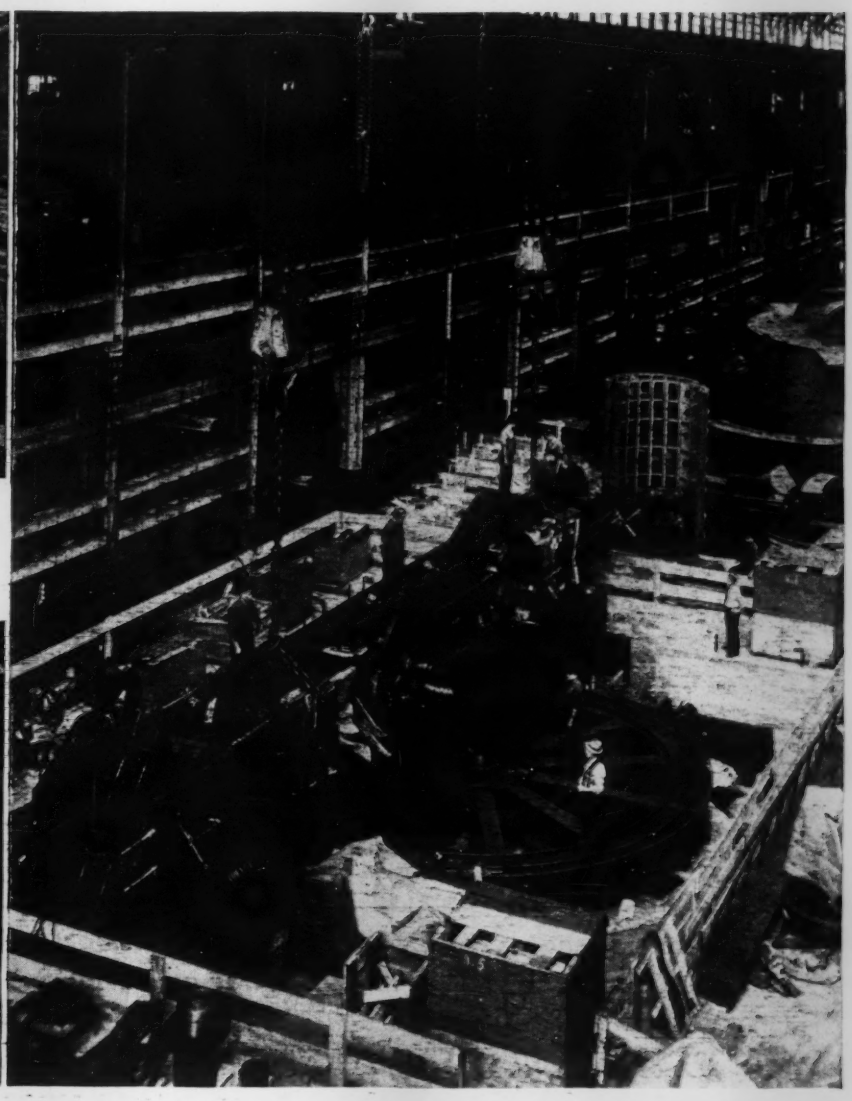
As a result, 120 steel casings of 10-in. diameter were driven to an average depth of 29 ft. or to hardpan with a 15,000-lb. single-acting steam hammer having a 36-in. stroke. Driving of piles continued until four blows were required for the last inch of penetration to make possible a bearing load of 30 tons per pile. The piles were then filled with concrete.

Because of some concern as to the effect of vibration on nearby machines

nsit-mixed concrete is delivered by chutes for building up rs above pad level. Note numerous anchor bolts.



325 cu. yd. of concrete in place foundation is ready for dead load of 705,800 lb. and a live load up to 576,000 lb.



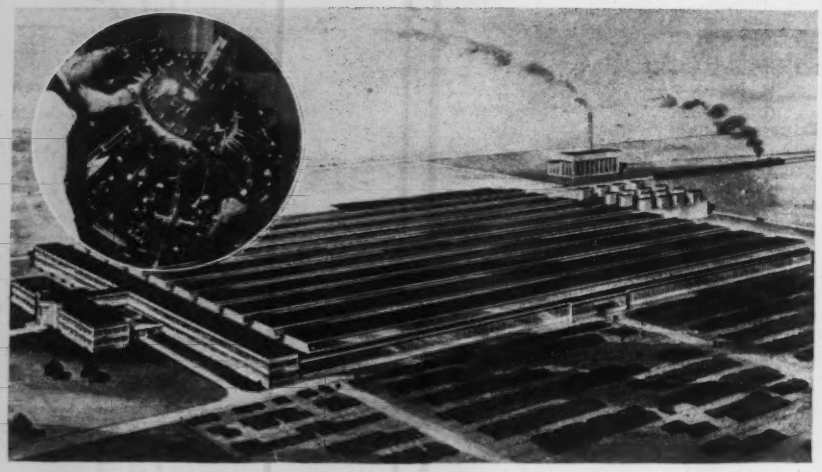
Here the 115-ton crossrail for the boring machine is lowered into position by overhead cranes. Circular steel section already in place is support for the table.

40-ft. diameter boring mill

while the piles were being driven, measurements of this effect were noted. A planer 30 ft. from the pile driver vibrated but .0008 in.; a milling machine 75 ft. away but .0003 in.; and a nearby building column .0004 in. vertically and .0005 in. horizontally. Also tests were made 50 ft. from the driver to show how the vibration varied with the depth of driving. At the start the vibration was .0006 inches; when the pile was at a depth of 7 ft. the vibration was .0010 in.; at 14 ft. it was .0006 in.; at 21 ft. it equalled .0008 in.; and at refusal .0010 in. Since the various machines normally operate with a 50-ton crane running overhead and a resultant floor vibration of 0.002 in., driving of the piles was considered of no ill effect.

A total of 325 cu.yd. of concrete and 6.000 lineal feet of ¾-in. reinforcing bars was necessary for the foundation placed on the piles. The mat or slab is 18 in. thick and the side walls 10 in. Steel for the side walls is welded to that in the mat's bottom.

In an 8-hour pour mat and walls were poured continuously with ready-mixed concrete and a 1:2½:3½ mix. The foundation pedestals were constructed later. After placing all concrete was complete, 2-in. thick steel plates were placed on the piers supporting the leveling blocks. Last operation of the foundation construction was leveling and grouting these plates in place.



Buick begins its 1,000,000 sq.ft. aircraft engine plant

For production of Pratt & Whitney aircraft engines to boost Uncle Sam's air arm, Buick Division of General Motors Corp., last week announced the letting of a contract for its new $31,000,000 Melrose Park, Chicago, plant.

On a site covering 125 acres, four buildings and 24 test cells will be erected. The main manufacturing structure will be 1,305 x 750 ft.—a floor space area of approximately 1,000,000 sq.ft. A three-story and basement office building of 250 x 60 ft., a power plant, and an employment-personnel building complete the project. Of steel frame construction with brick and glass walls, the one-story manufacturing building will be self-contained, with complete production, assembly and test facilities.

In the above illustration may be seen the administration unit in the left foreground, and the solid block wall testing cells are at the right. Normal production is estimated at 5,000 engines per year.

The project is being built under government contract and Thorgersen & Ericksen Co., Chicago, are general contractors. Mississippi Valley Structural Steel Co., are steel fabricators and erectors, and Albert Kahn and Associates, Detroit, are engineers and architects.

Georgia senate kills pipeline bill

A bill introduced in the Georgia legislature that would have permitted the Southeastern Pipeline Co. to extend its pipeline from Port St. Joe, Fla., through the state to Chattanooga, Tenn., and which would have permitted the company to condemn property for the construction of such a line was killed by the Georgia senate Mar. 19, when it voted 27 to 21 against legislation permitting private companies the right of eminent domain for pipeline construction.

President Roosevelt had sent a special message to Governor Eugene Talmadge urging passage of the legislation on the grounds that the pipeline was essential to national defense.

After voting down the bill, the senate adopted a resolution expressing willingness to reconvene in special session to enact legislation permitting the federal government to construct such a line in Georgia, "if and when" the federal government deemed the project necessary for national defense. The Georgia senators were opposed not to construction of the pipeline but definitely opposed to giving private concerns the right of eminent domain for such construction.

Tacoma considers large power expansion program

The city council of Tacoma, Wash., is considering an $11,000,000 power expansion program which involves the construction of a hydro-electric dam and power plant and enlargement of an existing plant.

The plan was offered by Utilities Commissioner R. D. O'Neill on the basis of surveys and investigations conducted by J. V. Congwer, chief construction engineer for the city's light division, who was retained last year to make the survey.

The proposed dam, 265 ft. high and 930 ft. across the crest, would be on the Nisqually River near Elbe, and would necessitate the relocation of 9 mi. of railway and 4½ mi. of highway, and would create a storage basin of 190,000 acre-ft. It would be an arch type dam with a 540 ft. spillway. The dam would be 18 ft. thick at the top and 90 ft. at the base, requiring 302,000 cu.yd. of concrete, according to preliminary plans.

A new power plant of 50,000 kw. capacity would be built on the Nisqually River above the site of the present plant. Based on preliminary estimates the project if started soon could be completed in 1944.

WASHINGTON HIGHLIGHTS

POSSIBILITY of calling upon some of the larger structural steel fabricators to go into the ship-building business is being canvassed by the Maritime Commission. Because of the present urgent need for tonnage, the Commission is supplementing its long-time program of building high-type freighters with a plan for construction of large numbers of small simplified ships—"pointed boxes" something like the Hog Island ships of the last war. Arrangements have already been made with shipbuilders by the Commission and the British for construction of 260 such boats, but it is desired to expand this program by as much as 600 ships. Because existing shipbuilders are already loaded up with work, it will probably be necessary to go to allied industries. So far, it is being found difficult to find responsible contractors for this work.

OF ABOUT $12,000,000,000 of defense contract awards by the Army and Navy up to Mar. 8, about $2,000,000,000 was for construction. Industrial construction with government funds accounted for $1,191,000,000, of which $762,000,000 had been awarded by the Army. Other construction contracts, just about equally split between Army and Navy, totalled $900,000,000.

CONSTRUCTION of underground storage for considerable reserves of fuel oil and aviation gasoline has been recommended by the Office of Production Management to the Army and Navy. OPM has also suggested detailed designs for such storage tanks. The nature of these designs is confidential, but it is known that at Pearl Harbor the Navy is storing fuel in vertical shafts about 300 ft. deep and 100 ft. in diameter. In some other places, of course, it is not possible to go so deep. Present Navy projects for underground storage, however, are based on the regular needs of naval stations rather than on accumulation of reserves.

Some months ago, OPM recommended that private firms having occasion to store oil give consideration to underground storage in cases, such as in congested areas, where the additional cost might not be great.

THE PANAMA CANAL will soon arrange one of the largest orders for cement ever contracted—5,000,000 bbl. for use in the third set of locks. Whether it will be bought by negotiation or competitive bidding has not yet been determined. The Canal is also opening bids April 17 on 30,000,000 cu.yds. of excavation in connection with the same project.

Money for Army Engineer civil works voted by House

Flood control appropriations cut to cover only projects already under way. Panama Canal locks get $35,000,000.

Sticking closely to the budget, the House of Representatives passed the War Department civil functions appropriation providing funds for river and harbor improvement, flood control, and continuation of the third-locks project at Panama.

For general flood control, $71,129,000 is provided. Although this sum is about the same as that provided last year, the Chief of Engineers, Julian L. Schley, stated that it would just barely permit continuing work on all projects now under way, at a considerably reduced rate, plus one new project. This last is a $1,129,000 levee construction project at Huntington, W. Va., to protect the American Nickel Co. plant there against floods.

Reduced money for flood control

General Schley's statement, however, was made before a clause was inserted earmarking 10 percent of the appropriation for starting new projects in fiscal 1942, thus reducing the amount for existing projects to about $63,500,000; the corps would have liked to spend about $106,000,000 on these projects. Whether it will be possible to continue all existing projects with this sum, and what new projects might be started, is not yet known.

The bill provides $22,000,000 for flood control on the Mississippi River, a reduction of $8,000,000 from the current fiscal year.

For improvement of rivers and harbors, $20,000,000 is provided, a reduction of $9,024,000 from the current year. However, an appropriation of $29,676,000 for river and harbor projects of defense value authorized last fall is included in another bill now before Congress.

The bill provides $7,170,000 for installation of generators 7-10 at Bonneville Dam, and $1,845,000 to complete the 50,000-kw power installation at Fort Peck Dam.

For continuation of the work on additional locks at Panama $34,932,000 is appropriated in cash, and authorization is given also to incur contract obligations of $79,000,000. It is planned during the coming fiscal year to concentrate on dredging of the approach channels and of the lock sites themselves, while carrying on the detailed design of the locks. In addition, the bill would provide $3,073,000 for minor improvements to the canal facilities and $4,670,000 for special protective works of a secret nature.

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Indiana to start defense access roads construction

The War Department, according to John K. Jennings, Indiana WPA administrator, has authorized construction of access roads leading to Indiana's industrial plants which have large defense contracts. The projects listed for immediate construction are: streets and roads leading to the Delco Remy Division, General Motors Corporation and Indiana Ordnance Works at Anderson, Ind.; Indiana Ordnance and Hoosier Ordnance plants, Charlestown; Sudebaker plants, at Fort Wayne and South Bend; Jefferson Proving Grounds, Madison, and the Kingsbury Ordnance plant at Union Center.

Work is already under way on six highways in the state which have been certified by the U. S. War Department as being important in the preparedness program.

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Purcell turns down San Francisco job

Charles H. Purcell, California state highway engineer, has turned down an offer from San Francisco to serve that city as traffic expert.

The proposed contract between Mr. Purcell and the city of San Francisco envisioned a five year study of the city's traffic and transit problems. As a result of a friendly suit filed a year ago by San Francisco's Comptroller Boyd to test the legality of obligating the city for a five-year period and using various municipal funds for this purpose, the state supreme court (reported in ENR March 20, 1941, p. 438) had ruled favorably on the legality of the proposal.

In turning down the San Francisco offer Mr. Purcell stated that his reason for doing so was purely of a personal nature.

Contractor saves 25 days by using a tent on this job

During recent construction of a residence at Atlanta, Ga., the contractor saved 25 days over normal construction time with the aid of a tent.

As designed, plans for the dwelling called for a structure 136x36 ft., and the tent was designed to cover an area 160x60 ft., thus allowing a 12-ft. extension around all four sides. The contractor used native pine trees cut from the site for tent poles. Two of the six poles rising from the basement are 50 ft. high, while the others are 40 ft.; the tent being raised by block and tackle with the use of a large hand winch, which required three days.

The house was literally built around the tent poles, as may be seen in the illustration at right. Removal of the poles was carried out by simply cutting them off flush at the bottom and lowering through the roof, sufficient cuts being made to eliminate danger of damaging interior partitions.

MEN AND JOBS

EDWARD F. KENEFIC, of Binghamton, N. Y., is retiring after 54 consecutive years of civil engineering.

C. L. WHITE, formerly employed in the engineering department of the City of Jackson, Miss., is now on duty in the 106th Engineering Corps at Fort Blanking, Fla.

L. R. JONES, district engineer for the Nebraska State Highway Department at Grand Island, has been elected president of the Grand Island Engineers Club, succeeding L. R. Rudd, county engineer.

C. E. HOMMON has resigned his position as engineer of Clark County after 12 years, to become a member of the Kansas State Highway Department, specializing in bridge design and construction. M. M. MAYSE has been appointed temporarily to succeed Mr. Hommon as county engineer.

EARL W. FIALA, engineer, of Cedar Rapids, Iowa, is now connected with HARRY NOEL CONSTRUCTION CO. on a power plant project at Savanna, Ill.

DON WEST has been appointed county road engineer by the board of Chelan County commissioners at Wenatchee, Wash., succeeding DON BLACK, who has resigned.

LOUIS H. BURR, for 17 years production manager of the steel fabricating division of The Austin Co., Cleveland, has been named works manager to succeed the late JAMES E. FERGUSON.

NELSON M. COLLIER has been appointed Walla Walla County road engineer at Walla Walla, Wash., to succeed E. R. Smith, who has resigned. Collier has previously served the county as flood control district engineer.

Several new appointments or reappointments to county engineering positions in Iowa are as follows: ALDEN D. FINCH, who was formerly Fayette County Engineer but has been a sales representative since 1937 for the Gibbs Cook Tractor & Equipment Co., Des Moines, has been renamed to the county job. CARLTON VERNON has been named Adams County Engineer to succeed FRED D. MCCLELLAND. RAY MCMURRAY, completing 26 years in Jasper County, has been reappointed for three years. M. Y. KINNE, Hamilton County, and L. L. BOGGESS, Emmet County, both reappointed engineers, are beginning their 14th and 9th years, respectively, in the counties. Other appointments of county engineers include: FLOYD RUBEY, Page County; F. W. AKERS, Calhoun; JAMES STOBER, Butler; E. W. HAHN, Chickasaw; C. E. SMITH, Henry; RAYMOND STEVENSON, Black Hawk; and E. F. BAKER, Union.

CAPT. R. O. ZIMMERLING, civil engineer with the South Dakota State Highway Commission, has been ordered to active military duty with the 28th U. S. Army Engineers and will be stationed at Metlakata, Alaska.

IRA STANLEY, civil engineer and computer for the South Dakota State Highway Commission, has received a civil service appointment as Junior Naval Architect and reported to work March 15, at the U. S. Navy Yard, Mare Island, Calif. Stanley graduated from South Dakota State School of Mines in 1939.

ALLAN G. JONES, draftsman with the state highway department, Jackson, Miss., has left the department to assume active military duty at Camp Shelby, Hattiesburg, Miss.

EMERSON L. BURRELL, resident district engineer for the state highway department at Findlay, Ohio, for two years, has been appointed project engineer for the Lima, Ohio, district.

JOSEPH H. MOORE, who has been assistant Santee-Cooper project engineer with the PWA, has been appointed assistant to F. R. SWEENY, chief engineer for the South Carolina Public Service authority in construction of the Santee-Cooper hydroelectric and navigation project, with headquarters in Charleston, S. C.

Also transferred to Charleston to the Santee-Cooper project offices are RANSOM S. KENYON of Houston, Tex., resident engineer inspector; ERNEST P. FRYANT, of Jackson, Miss.; CHESTER L. WILDER, of Lebanon, Pa., and FRANK E. MOSS, of Junction City, Kan., assistant resident engineers.

R. S. VAN NOCKER, city manager of Albert Lea, Minn., and former city engineer at Owatonna, Minn., has resigned to assume duties as a lieutenant-colonel in the Army.

CHARLES PIRIE, area engineer of Beatrice, Neb., on March 4 assumed supervision of five counties under a WPA consolidation program in the first Nebraska district.

L. K. CRAWFORD of Springfield, Ill., who became a firm member of the Capital Engineering Co. in January, has been called for military duty, and reported at Chanute Field, Rantoul, Ill., March 15. He is a reserve officer with the rank of first lieutenant.

The Illinois Division of Sanitary Engineering at Springfield added two new men to the Springfield office early in March. They are GEORGE L. FARNSWORTH, JR., and PAUL M. KIEL, who are to be trained for sanitary engineering work in the district. Other new men in the division engaged in 1941 include: JOHN F. NEWELL from Iowa State College, who was connected with the Illinois State Division of Waterways; HUGH RIMMKE, from Armour School of Technology; RICHARD G. THOMAS, from the University of Illinois, who was connected with the Illinois State Division of Highways, and who has been assigned to the Aurora district; JOSEPH P. BUGIEL, Armour School of Technology, Chicago district; ROBERT W. EDDY, yet to be assigned; WALTER H. RIEGER, Woodstock district; HOWARD W. SPENCE, Paris district; and THOMAS E. PHILBIN, Peru district, replacing C. V. ERICKSON, who has taken a position with the Pacific Flush Tank Co.

JOHN S. MOORE, Bureau of Reclamation engineer and formerly superintendent of the Yakima project, has been appointed to serve as head of a newly created department of the Bureau of Reclamation with headquarters at Denver, Colo. The new office will be known as the Division of Soil and Moisture Conservation Operations, and will make investigations and surveys to furnish technical data on irrigable land brought into cultivation on federal reclamation projects.

J. A. FITCHETT, of Denver, formerly with the Dunn Construction Co., has recently accepted a position with Broderick & Gordon Construction Co. As field engineer, he will be in charge of engineering field operations on the Denver munitions plant.

GEORGE MUSICK, Pueblo, Colo., of the Platt Rogers Construction Co., has been appointed manager of their recently opened Denver office.

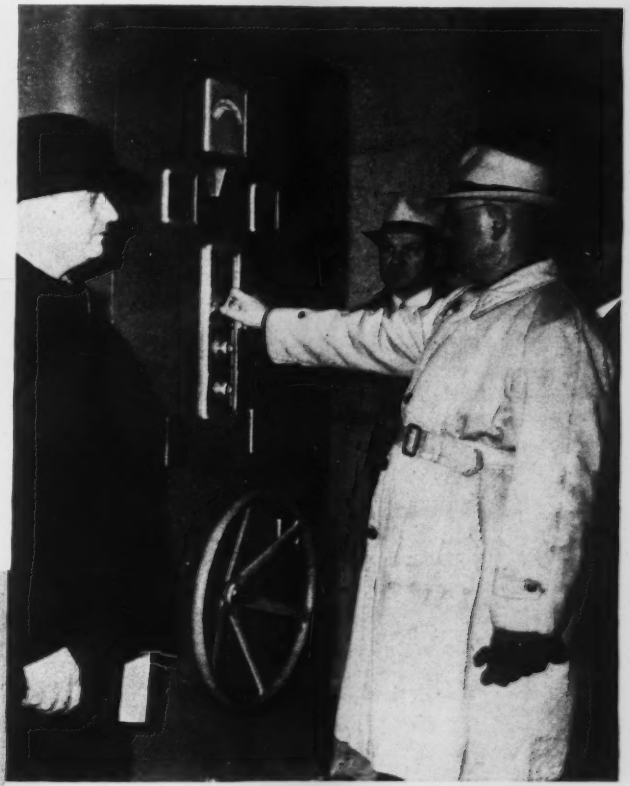
FRANCIS MCEHERREN, Denver, formerly designing engineer for the Climax Molybdenum Co., has recently joined the Colorado Builders Supply Co., Denver, as steel designer in the engineering department.

DAN HODGES, civil engineer, who has been employed by the City of Jackson, Miss., in the engineering department, is now in active duty as first lieutenant (construction engineer) at Camp Shelby, Miss.

For the defense of Britain, these hard-headed construction men, L. R. SMALL (left), outside superintendent, and JOHN SWEENEY, superintendent for Sanders Engineering Co. at South Portland, Maine, are speeding construction on a ship building basin for assembly of 30 cargo vessels for the British government.

...EN at WORK

WAYNE PALMER (left), and M. X. WILBERDING, members of the firm of Wilberding & Palmer, Inc., engineering and financial consultants on the Bankhead Vehicle Tunnel, under the Mobile River at Mobile, Ala., make a final check on plans for opening the tunnel to traffic on Feb. 20.



FRANK A. BANKS, supervising engineer, U. S. Bureau of Reclamation, who has been in charge of construction from the beginning at Grand Coulee Dam, is shown turning the knob which started operation of the first 10,000-kw. generator Mar. 22, feeding energy into the Bonneville transmission system.

Chicago's city engineer, W. W. DeBERARD, and his two recently appointed consultants, PAUL HANSEN (left) and LOUIS R. HOWSON (right) plot a spring offensive on the huge Southside water filtration plant. Foundations were completed last year and now superstructure, pipe and equipment must be added. Lake Michigan at 79th St. promises to be the site of one of the big peacetime jobs of the year.

Delaware River vehicle tunnel proposed

Delaware's Senator James H. Hughes has introduced in the U. S. Senate a resolution granting consent of Congress to an agreement between Delaware and New Jersey for financing, constructing and operating a vehicle tunnel under the Delaware River near Wilmington. This resolution follows up three similar bills now before the Delaware legislature which have been introduced by Senator Paul R. Rinard.

One of the bills pending before the Delaware legislature would create the Delaware Tunnel Commission to construct, maintain and operate a vehicle tunnel and approaches from a point at or near Pigeon Point, near Wilmington, to a point at or near Deepwater Point, in Salem County, N. J.

The commission would comprise seven members, four from Delaware appointed by the Governor and three from New Jersey, appointed on recommendation of the Governor of that state.

The commission would be empowered to issue bonds to pay the costs of the tunnel. Tolls for use of the tunnel would be collected and used to pay the maintenance costs, and for payment of interest and principal on the bonds.

A second bill in the tunnel series would provide for naming of a "Delaware Ferry Commission" with power to purchase property, facilities and equipment of all privately owned vehicle ferry lines which cross the Delaware between New Castle County and a point in New Jersey.

The third in the series would authorize an agreement with New Jersey for cooperative action through a body corporate and politic to be known as "The Delaware River Tunnel Authority."

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New water supply for Indianapolis, Ind.

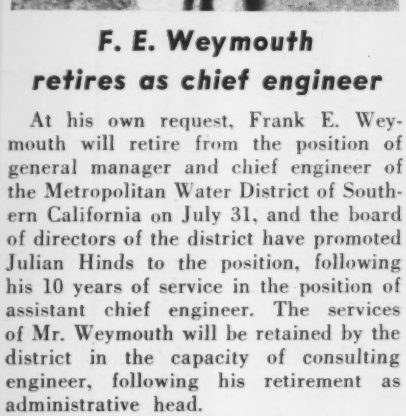
A petition has been filed with the Indiana Public Service Commission by the Indianapolis Water Company requesting authorization that would permit the company to construct a $1,600,000 dam and reservoir project on Fall Creek about 10 mi. northeast of Indianapolis. The petition explains that the new project, which would have a storage capacity of approximately 7,000,000,000 gal., is needed because of the increased use of water in Indianapolis and the recent diminishing of the flow in Fall Creek and White River in periods of peak draft.

If approved by the commission, the company expects the project to be completed in about two years. A hearing before the commission is set for Mar. 31 (just as *ENR* goes to press).

F. E. Weymouth retires as chief engineer

At his own request, Frank E. Weymouth will retire from the position of general manager and chief engineer of the Metropolitan Water District of Southern California on July 31, and the board of directors of the district have promoted Julian Hinds to the position, following his 10 years of service in the position of assistant chief engineer. The services of Mr. Weymouth will be retained by the district in the capacity of consulting engineer, following his retirement as administrative head.

Mr. Weymouth has served as the chief administrative and engineering officer of



Julian Hinds

the Colorado River Aqueduct project since 1929 and during this same period Mr. Hinds served first in the capacity of chief designing engineer and later as assistant chief engineer. These years of service with the Metropolitan Water District cover the period of design and construction of the $220,000,000 project built to convey Colorado River water to Los Angeles and adjacent metropolitan areas. During the past eight years the construction program has been carried to completion on the 392-mile aqueduct system, and with the conclusion of this work Mr. Weymouth requested retirement from active direction of district affairs.

Prior to his service on the Colorado River Aqueduct project, Mr. Weymouth had served with the Bureau of Reclamation in the capacity of chief engineer and had also directed numerous other important reclamation projects.

Mr. Hinds also has a background of engineering work on important reclamation and water supply projects prior to his connection with the Metropolitan Water District in the capacity of chief design engineer. Under his direction the design work from original studies to completed plans have been carried forward. During the past few years he has actively assisted Mr. Weymouth in administrative management of the district.

The regular delivery of softened and filtered Colorado River water to the district is scheduled to begin Aug. 1 of this year. Several weeks prior to that official date water delivery to several cities within the district may be started during the course of testing operations.

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Maryland Senate votes super-highway bill

A bill has been passed by the Maryland Senate authorizing the state roads department to construct a new superhighway between Baltimore and Washington.

The bill was passed with an amendment attached which would limit the interest on construction bonds to 3½ percent and would make the maximum term of the bonds 20 years. As originally introduced, it would have permitted a top interest of 5½ percent on the bonds and would have set the term at 40 years.

The bill authorizes the state roads commission "to arrange for construction of a super-highway between Baltimore and Washington if it is deemed advisable." It does not make construction of such a motorway mandatory. Authorization for construction permits the sale of bonds which would be retired from funds collected as tolls charged for use of the proposed highway. After the bonds have been retired the road is to be free to traffic and is to be maintained by the state roads commission, maintenance cost to come out of regular gasoline-tax funds. Provision is made that the present Washington-Baltimore boulevard be retained as a free highway for those who prefer to use it.

New York to use grade-crossing funds for parkway and highway construction

Legislature passes amendment to permit $60,000,000 from crossing-elimination bonds to be spent on highways

The New York Legislature has for the second time passed a constitutional amendment providing for a diversion of $60,000,000 in authorized bond moneys from grade crossing elimination funds to construction and reconstruction of highways and parkways. The measure will be submitted to popular vote in November. The grade crossing bond funds represent the unused portion of the $300,000,000 bond issue originally authorized by vote of the people in 1926. The measure just passed is an amendment to the previous amendment. If finally approved by popular vote the $60,000,000 diversion will reduce the grade crossing elimination program by that amount and increase the highway and parkway program similarly. Accompanying legislation also was passed by the legislature providing for formal appropriation and allocation of $30,000,000 to highways and $30,000,000 to parkways.

This enabling legislation is not subject to popular approval but is assured of enactment since the entire plan was urged by Governor Lehman and he has definitely indicated that he would approve the measures just passed. It is expected that actual advertisement for bids covering some of the work involved in the highway and parkway program might be made during the latter part of the present year, provided the $60,000,000 bond issue diversion is approved at the polls in November. It is considered probable that, if approved, the $60,000,000 program would be spread over a two year period, thus making available $15,000,000 a year for two years for highways and a like sum for parkways.

Opposition arguments

Construction organizations and organized labor in New York State have vigorously opposed this bond-issue diversion plan, primarily because it represents but a partial substitute for normal and adequate appropriations that should be made each year for highway and parkway work out of current revenues collected for that purpose, but diverted to other than highway use. Organized labor registered its opposition by declaring that the measure was not only inadequate to meet the highway needs of the state but that it represented a decided swing away from the "pay as you go policy" in favor of bonds.

The legislature while passing the Governor's $60,000,000 bond diversion plan, rejected a proposed $200,000,000 highway bond issue. This larger bond issue was defeated in the Assembly and not pressed for action in the Senate. Under the terms of this measure a long range highway program was contemplated through the issuance of short term (10 year) bonds to be amortized by the segregation of 1c. per gallon of the present 4-c. motor-fuel tax.

No increase in regular highway appropriations can be expected during the next two years in view of Governor Lehman's commitments on the subject indicating that the present minimum appropriations for matching federal aid would not be further reduced.

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Defense traffic overloads Seattle street system

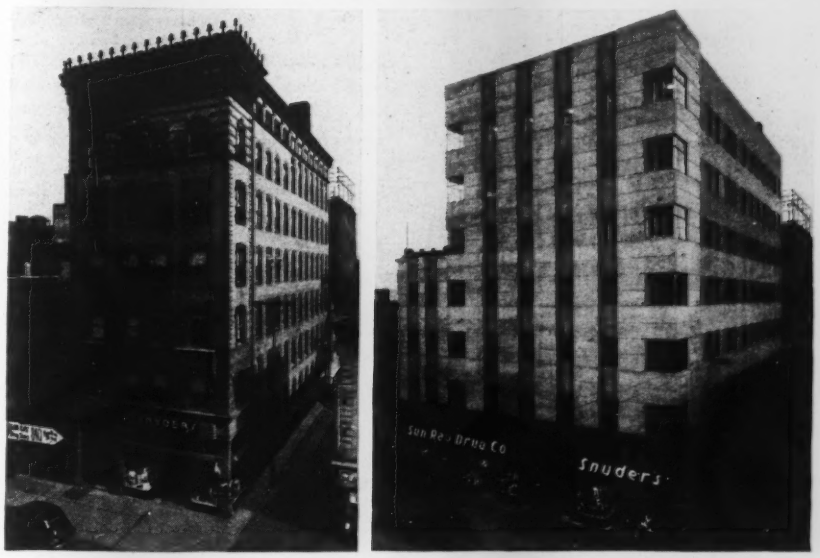
Traffic in Seattle, Wash., has become so heavy due to unprecedented industrial activity of the city's many plants working on defense orders that industrial, labor and municipal officials of the city last week voted to ask the Boeing Aircraft Co. and two shipbuilding firms to change the hours of their shifts, as the first step in an extensive "staggering" of workers' hours to relieve traffic congestion.

"It is becoming increasingly apparent that all the city's downtown and industrial working people cannot use the city's key streets at the same time," said Mayor John E. Carroll.

The three firms have been asked to alter their afternoon change of shift, making it 3 o'clock and 3:30 instead of 4 o'clock. It is indicated that business men in the central business district may be asked to change working hours of their employees.

Two arterials in the central business district are reported to be carrying 30 to 50 percent more traffic than a year ago. Present bus facilities are declared inadequate to carry both industrial and business traffic at peak hours.

Harbor Island, site of the shipyards, may be reached by automobile, but by a circuitous route with a serious traffic bottleneck, and it is anticipated that extra ferries will be required to supplement small craft now in use.



Believe it or not—the same building

A modernization program with only slight inconvenience to office occupancy has been completed by the Lehigh-Portland Cement Co. on its 7-story home office building in Allentown, Pa. The Young Building, named after a founder of the company, was built in 1902 and presented an architectural appearance of that date indicated in the "before" picture. The reconstruction program included the complete removal and rebuilding of the two top floors of the building. Temporary partitions were built inside the original brick walls to permit work to continue without interference with office routine. This procedure was also used along the side of the building where an addition was built on newly acquired property. The work was concluded with the adding of a modern exterior, as indicated. The structure is completely air conditioned.

The remodeling and enlargement program makes possible office space for the entire Allentown staff of the Lehigh-Portland Cement Co. The reconstruction work was carried out by the Turner Construction Co.

Bill to raise $1,000,000 for Neches River Dam

In order to finance, in part, the construction of a $3,000,000 dam on the Neches River near Frankston, Tex., a bill has been introduced in the Texas legislature authorizing the diversion of 50 percent of the ad valorem tax revenue in a group of four counties, situated in the area of the proposed dam. Diversion of the tax will provide a revenue of approximately one million dollars, it was explained by P. K. Birdwell, president of the Sabine-Neches Reclamation District, which has been formed to construct and operate the project.

The storage dam will supply water for domestic and industrial uses for a number of East Texas cities. Application will be made to the WPA for a $2,000,000 government loan to aid in construction of the proposed project.

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Bankhead Tunnel profit averages $100 daily

The new $4,000,000 Bankhead Tunnel under the Mobile River at Mobile, Ala., which was opened to traffic Feb. 20 is reported to be making $100 profit every 24 hours, according to Mayor Cecil F. Bates of Mobile.

Daily tolls are averaging $500, while present operating costs, interest charges, insurance and maintenance average $400 daily. The tunnel is 3,400 ft. long with a single roadway.

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New water supply needed at Wilmington, N. C.

Faced with a rapidly increasing population, as a result of national defense projects in the vicinity of Wilmington, N. C., the city is seeking means of obtaining a combined water supply sufficient to care for twice its population in the 1940 census (32,500). A water shortage was experienced the past summer when unusually high tides backed up salt water into the city reservoir.

Last November W. G. Olsen, consulting engineer of Raleigh, N. C., was retained by the city to investigate means of increasing the water supply. Olsen's report, which has just been presented to city officials, states that the most logical means of obtaining a new water supply is to tap the Cape Fear River at the King's Bluff Dam, and connect it with the present city reservoir on Toomer's Creek. To tap this supply will cost approximately $1,340,000. The city has now requested Mr. Olsen to determine the cost of additional works at the city's chlorinating and filtration plants.

JOBS OF THE WEEK

AIRPLANE ASSEMBLY PLANT, Hatboro, Pa.

George A. Fuller Co., Philadelphia, Pa., has been awarded contract for the construction of a 1 story, 502x703 ft. assembly plant for Brewster Aeronautical Corp., Newark, N. J. Estimated cost with equipment $5,000,000. Silverman & Levy, Philadelphia, Pa., are engineers and architects.

BREAKWATER, Los Angeles, Calif.

Columbia Construction Co., Reno, Nevada, was lowest bidder constructing 15,350 lin. ft. composite type detached breakwater and restoring existing 12,500 lin. ft. detached breakwater in Los Angeles and Long Beach Harbor. Work includes 1,257,000 cu.yd. dredging. U. S. Engineers, Los Angeles, opened bids March 25, and low offer was $10,321,300. E. C. Kelton, Los Angeles, engineer.

WAREHOUSES, Conly, Ga.

A. Farnell Blair, Decatur, Ga., will build eight 180x840 ft., four 180x720 ft. and two 180x960 ft. warehouses, all of steel and masonry. Cost will be $4,271,084. Robert & Co., Atlanta, Ga., are engineers. Constructing Quartermaster, Atlanta, Ga., awarded contract.

DREDGING, San Diego, Calif.

American Concrete and Steel Pipe Co. and Case Construction Co., South Gate, Calif., were low bidders March 25, for dredging 22,260,000 cu.yd. in Area S, San Diego Harbor, at $2,381,820. U. S. Engineers, Los Angeles, opened bids.

QUARTERS, Anchorage, Alaska

Sound Construction & Eng. Co., J. B. Warrack Co., and Peter Kiewit & Sons Co., Omaha, Neb., were lowest bidder for constructing non-commissioned officers' quarters and heating plants at Fort Richardson. Bids were taken by U. S. Engineers at Seattle, and $3,157,680 was lowest bid.

SEWAGE TREATMENT WORKS, Jamaica, N. Y.

Caye Construction Co., Inc., Brooklyn, N. Y., was lowest bidder for constructing contract 10, buildings and equipment, for Jamaica Sewage Treatment Works, at $1,245,563. Department Public Works, New York, took bids Mar. 28.

NAVAL ORDNANCE PLANT ADDITION, Sunnyvale, Calif.

Macdonald & Kahn, San Francisco, will build plant addition for manufacturing naval ordnance for F. Kahn, San Francisco. Total cost will be $1,000,000.

HOUSING, Portsmouth, N. H.

Thomas O'Connor & Co., Cambridge, Mass., has been awarded contract for constructing 800 dwelling units, defense housing, by Public Buildings Administration, Washington, D. C., $2,674,500.

FLYING SCHOOL, Albany, Ga.

Hardaway Contracting Co., Columbus, Ga., will construct Army Air Base advance flying school at Albany, Ga. Estimated cost is $2,350,000. U. S. Engineers, Savannah, will be in charge of work.

HOUSING, Cincinnati, O.

Penker Associates, Cincinnati, O., has been awarded contract constructing 2 story, apartment type units for Lincoln Court Housing by Cincinnati Metropolitan Housing Authority, Cincinnati, O. Estimated cost $1,060,000. F. W. Garber, Cincinnati, chief architect.

AQUEDUCT, Key West, Fla.

Youngstown Sheet Tube Co., Youngstown, O., and American Rolling Mill Co., Pittsburgh, Pa., have been awarded contract by Florida Aqueduct Commission, for furnishing pipe for fresh water line from Florida City to Key West. Estimated cost $2,000,000. L. L. Lee & Associates, Miami, and E. T. Killam, New York, N. Y., are consulting engineers.

FLOOD CONTROL, Massillon, O.

E. J. Albrecht Co., Chicago, Ill., was lowest bidder Mar. 27, for completing Massillon Conservancy District, at $3,249,812. U. S. Engineers, Huntington, W. Va., took bids. Work includes straightening and widening Tuscarawas River, constructing levees, bridge at Walnut St., viaducts, railroad and street relocation.

POWER PLANT IMPROVEMENTS, Newport, R. I.

Ford, Bacon & Davis, Inc., New York, N. Y., has been awarded contract improving power plant, at Training and Torpedo Station for Yards & Docks, Navy Department, Washington, D. C. $2,940,000.

NOTE—Additional bidding and contract news on over 800 projects large and small appear in the Construction News section beginning on page 15.

OBITUARY

CHARLES J. BENNETT, former Connecticut highway commissioner, died Mar. 24 at Hartford, Conn. Mr. Bennett was a prominent construction engineer and specialist in municipal and railroad engineering.

T. J. BRANNING, 69, chief engineer on the Florida East Coast Railway bridge across the St. Johns River at Jacksonville, Fla., died recently at his home in that city.

ELLIS W. DAVIS, 56, highway construction engineer, Boonneville, Mo., died Mar. 21. Mr. Davis was former owner of the Davis Construction Co., from which he retired in 1936.

EDWARD S. BYINGTON, 74, civil engineer, died Mar. 22 at DeQueen, Ark.

ALBERT J. HORTH, 94, engineer, died Mar. 15 at Meadville, Pa. For 60 years he was an employee of the Erie Railroad specializing in bridge construction.

MILES PENNER COTTON, 62, civil engineer, died Mar. 16 at View Royal, Canada.

BEN L. LEA, 51, civil engineer, died Mar. 19 at Cleveland, Ohio.

THOMAS H. TALLETT, engineer with the Philadelphia bureau of water, died Mar. 17 at Philadelphia, Pa.

CHRISTIAN C. STEEB, 51, construction engineer for the Westinghouse Electric & Mfg. Co., died Mar. 20 at Mason City, Wash. At the time of his death Mr. Steeb was engaged on work at Grand Coulee Dam.

ROBERT E. SWINNEY, 58, senior member of the firm of R. E. Swinney & Son, contractors and civil engineers, died Feb. 18 at Baton Rouge, La.

ELMO H. KOEHLER, 38, died Mar. 20 at San Benito, Tex. Mr. Koehler was with the Right-of-Way Department of the International Boundary Commission, U. S. and Mexico. He had been working on the Lower Rio Grande flood control project for the past four years.

GEORGE HOLLOWAY CAIRNS, of Gainesville, Fla., 60, well known consulting engineer, died at Jacksonville recently.

MATTHEW VAN SICLEN, former engineer for the U. S. Bureau of Mines, died Mar. 3, at Tucson, Ariz., at the age of 60. Mr. Van Siclen was at one time consulting engineer for the Turkish government.

First limited-access superhighway for Detroit

Construction of the first limited-access superhighway in the Detroit, Mich., area has been announced by the Wayne County highway commission.

The project will cost $2,500,000, and is designed to eliminate a crosstown traffic bottleneck. Plans call for three lanes of traffic in each direction, with a 6-ft. raised dividing strip in the center. The highway will be below street level, and north-south streets will cross on bridges; it will be 1½ mi. long with a 205-ft. right-of-way. One-way service drives will flank the superhighway.

Causeway leading to Padre Island proposed

Application has been made to the U. S. Army Engineer at Galveston, Tex., by the Padre Island Causeway Co. for a permit to construct a causeway over the Laguna Madre to connect the mainland at Encinal Peninsula, ten miles south of Corpus Christi, Tex., with Padre Island.

The proposed causeway would be approximately 15,000 ft. long, and all but two sections of the trestle, each 400 ft., would be earth-filled. In the center of the channel would be a 70-ft. movable barge bridge.

CONTRACTS AND CAPITAL

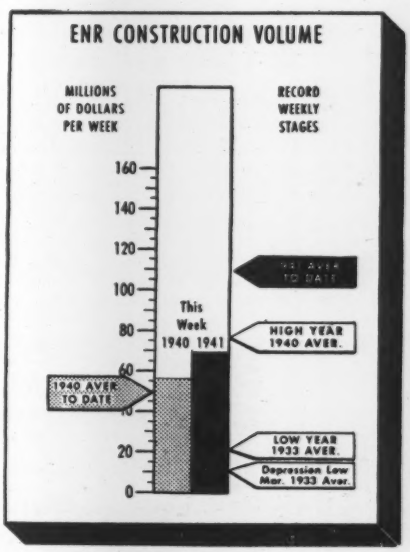
ENGINEERING CONSTRUCTION awards for the week, $68,989,000, are 24 percent higher than in the corresponding 1940 week, but drop 45 percent below the volume reported for a week ago. This is the 31st consecutive week in which current awards have topped their last year's values.

Public construction is up 41 percent compared with the week last year, but is 40 percent lower than last week. Private awards are 2 percent lower than a year ago, and 55 percent under the year's high of a week ago.

The week's construction brings 1941 awards to $1,530,237,000, an increase of 119 percent over the 14-week period last year. Private awards, $442,106,000, are 85 percent higher, and public construction, $1,088,131,000, is 137 percent above the period last year, due to an 843 percent gain in federal work.

New capital for construction purposes totals $836,539,000. This compares with $84,776,000 for the 1940 week. The current week's new financing is made up of $100,503,000 in federal appropriations for naval public works, $695,000,000 in federal funds for completion of the Army's cantonment and camp program, $27,440,000 in corporate security issues, $13,563,000 in state and municipal bond sales, and $33,000 in RFC loans for public improvements.

The week's new construction financing brings the total for 14 weeks of 1941 to $2,169,192,000, an increase of 572 percent over the $323,119,000 reported for the period last year.



CONTRACTS

(Thousands of dollars)

	Week Ending Apr. 4 1940	Mar. 27 1941	Apr. 3 1941
Federal	$1,909	$56,221	$21,608
State & Municipal	31,416	21,370	25,291
Total public	$33,325	$77,591	$46,899
Total private	22,512	48,693	22,090
TOTALS	$55,837	$126,284	$68,989
Cumulative 1941	(14 weeks)		$1,530,237
1940	(14 weeks)		$698,578

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1940 14 weeks	1941 14 weeks
NON-FEDERAL	$323,119	$301,189
Corp. Securities	37,813	90,943
State & Mun.	211,064	170,712
U.S.H.A. loans	73,551	13,521
R.F.C. loans	691	26,013
FEDERAL		$1,868,003
TOTAL CAPITAL	$323,119	$2,169,192

FHA MORTGAGES

	Week Ending Mar. 30 1940	Mar. 22 1941	Mar. 29 1941
Selected for appraisal	$29,915	$32,830	$34,281*
Cumulative 1941	(13 weeks)		$312,952*
1940	(13 weeks)		$269,838

* Subject to revision.

ENR INDEX NUMBERS

Index Base=100		1913	1926
Construction Cost	Mar. '41	250.71	120.52
Building Cost	Mar. '41	207.88	112.37
Volume	Feb. '41	374	164

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

WATER SUPPLY AND SEWERAGE SYSTEMS, MAINE

OWNER: U. S. Engineer Office, Boston, Mass. Lt. Col. L. B. Gallagher, district engineer.

PROJECT: Construction of water supply and sewerage systems for the Air Corps cantonment, Bangor, Me. Involves excavation and backfill of trenches for piping systems and small embankments for support and cover of outfall sewer; cast iron and vitrified pipe line construction including service connections; sewer outlet into Penobscot River for outfall sewer; and concrete foundation for standpipe, and two concrete valve chambers. Water system includes 18,000-ft. of mains and 9,000-ft. of service lines. Sewerage system: 12,500-ft. of mains, 12,700-ft. of service lines, and 11,700-ft. outfall sewer.

CONDITIONS: Site of work is adjacent to U. S. Highway No. 2. Rail and water transportation facilities also available. Contractor to furnish all materials and complete work in 75 days. Work must be done under winter conditions. Other work being prosecuted in much the same area at the same time. Wage rates are: skilled labor, $1.00 to $1.375 per hr.; semi-skilled, 50c. to $1.00; and common, 50c.

BIDS: Seventeen bids were opened February 17, 1941 ranging from the contract low of $199,643 to $354,512. Engineer's estimate, $284,334.

LIST OF BIDDERS:

1. Carlo Bianchi & Co., Inc., Framingham, Mass. (contract) $199,643
2. V. Barletta Co., Roslindale, Mass. 215,039
3. I. Capaldi & Sons, Inc., Providence, R. I. 218,506
4. W. H. Hinman, Inc., North Anson, Me. 223,826
5. A. Piatelli & Co., Boston, Mass. 229,024
6. J. J. Callahan, Dorchester, Mass. 233,180
7. John Williams Co., Dorchester, Mass. 242,745
8. Kelleher Corp., Turners Falls, Mass. 245,353
9. John MacDonald Constr. Co., Newton, Mass. 248,436
10. Lane Constr. Corp., Meriden, Conn. 249,242
11. Camillo Profenno Co., Portland, Me. 274,592
12. Intercounty Constr. Corp., Rye, N. Y. 274,676
13. Vulcan Constr. Co., Boston, Mass. 287,394
14. Coughlan Constr. Co., Inc., Boston, Mass. 288,672
15. C. Reppucci & Sons, Inc., Boston, Mass. 296,374
16. Joseph P. McCabe, Inc., South Boston, Mass. 307,770
17. A. Baruffaldi Co., Somerville, Mass. 354,512

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Earth excav., backfill; water pipe over 6-in.	14,550 c. y.	$1.00	$1.75	$0.90
2. As above, water pipe under 6-in.	4,750 c. y.	1.00	1.80	.90
3. Sewer trenches, 8-ft. deep or less	25,000 c. y.	1.35	1.85	1.48
4. Sewer trenches, 8 to 12-ft.	1,400 c. y.	2.00	2.50	2.08
5. Sewer trenches over 12-ft.	120 c. y.	5.00	3.00	3.50
6. Earth excav., below norm. grade	50 c. y.	5.00	3.00	3.00
7. Gravel refill, below norm. grade	50 c. y.	3.00	3.00	3.00
8. Earth excav. for standpipe	250 c. y.	2.00	2.00	1.50
9. Lumber left in place	25 Mbm.	100.00	50.00	30.00
10. 6-in. tile pipe underdrain	1,500 l. f.	.75	.60	.80
11. 8-in. tile pipe underdrain	1,500 l. f.	.90	.70	1.20
12. Earth fill and embankment	1,110 c. y.	1.25	1.00	1.45
13. Rock excavation	2,100 c. y.	5.00	4.00	4.00
14. Class A concrete	250 c. y.	20.00	15.00	15.00
15. Class B concrete	25 c. y.	20.00	15.00	14.08
16. Steel reinf. bars	16,500 lb.	.10	.06	.07
17. 4-in. vitr. tile pipe	720 l. f.	.25	.30	.55
18. 6-in. vitr. tile pipe	8,500 l. f.	.30	.40	.65
19. 8-in. vitr. tile pipe	9,720 l. f.	.40	.50	.70
20. 10-in. vitr. tile pipe	1,170 l. f.	.55	.65	.74
21. 12-in. vitr. tile pipe	100 l. f.	.75	.75	.92
22. 15-in. vitr. tile pipe	2,410 l. f.	1.10	1.10	1.58
23. 18-in. vitr. tile pipe	11,600 l. f.	1.60	1.60	2.75
24. 12-in. conc. culvert pipe	70 l. f.	2.00	1.25	1.80
25. 18-in. conc. culvert pipe	50 l. f.	2.50	2.00	3.25
26. 24-in. conc. culvert pipe	80 l. f.	3.50	3.50	5.25
27. Std. brick manholes, 5-ft. deep	81 ea.	70.00	65.00	65.00
28. Add'l. manhole depth over 5-ft.	200 l. f.	15.00	10.00	11.00
29. Sewer outlet beyond manhole	L.S.	2,000.00	3,000.00	1,800.00
30. Crossings, two streets	L.S.	2,500.00	500.00	600.00
31. 4-in. B&S cast iron pipe	240 l. f.	1.00	.90	1.26
32. 6-in. B&S cast iron pipe	880 l. f.	1.30	1.25	1.80
33. 8-in. B&S cast iron pipe	8,000 l. f.	1.75	1.70	2.52
34. 10-in. B&S cast iron pipe	9,400 l. f.	2.25	2.20	3.45
35. 12-in. B&S cast iron pipe	3,200 l. f.	3.00	2.70	3.55
36. 16-in. B&S cast iron pipe	500 l. f.	5.00	4.00	6.50
37. B&S cast iron fittings	46,000 lb.	.10	.09	.07
38. Flanged c.i. pipe and fittings	3,000 lb.	.15	.10	.10
39. 1-in. galv. wr. iron or copper ser. pipe and fittings	600 l. f.	.50	.50	.58
40. As above, 1¼-in.	1,660 l. f.	.60	.55	.68
41. As above, 1½-in.	2,080 l. f.	.70	.60	.78
42. As above, 2-in.	3,080 l. f.	.80	.65	.73
43. As above, 2½-in.	260 l. f.	1.25	1.00	1.36
44. 4-in. bell-end gate valves; boxes	3 ea.	25.00	25.00	28.00
45. 6-in. bell-end gate valves; boxes	49 ea.	35.00	35.00	38.00
46. 8-in. bell-end gate valves; boxes	23 ea.	45.00	50.00	53.00
47. 10-in. bell-end gate valves; boxes	28 ea.	70.00	75.00	78.00
48. 12-in. bell-end gate valves; boxes	9 ea.	95.00	90.00	98.00
49. 16-in. bell-end gate valves; boxes	1 ea.	200.00	170.00	175.00
50. 16-in. flanged gate valve	1 ea.	200.00	175.00	190.00
51. 12-in. flanged check valve	1 ea.	160.00	135.00	165.00
52. ¾-in. screwed-end brass or bronze serv. gate valves and boxes	2 ea.	10.00	8.00	6.30
53. As above, 1-in.	3 ea.	10.00	9.00	7.00
54. As above, 1¼-in.	18 ea.	10.00	10.00	7.75
55. As above, 1½-in.	27 ea.	11.00	11.00	8.35
56. As above, 2-in.	51 ea.	12.00	16.00	8.75
57. As above, 2½-in., brass, bronze or iron body serv.	2 ea.	15.00	20.00	12.00
58. As above, ¾-in. (with automatic drain)	4 ea.	12.00	10.00	9.75
59. As above, 1-in.	3 ea.	14.00	11.00	11.00
60. As above, 1¼-in.	18 ea.	15.00	12.00	12.95
61. As above, 1½-in.	23 ea.	16.00	14.00	13.50
62. As above, 2-in.	50 ea.	18.00	20.00	17.50
63. As above, 2½-in.	2 ea.	20.00	25.00	21.00
64. Drill, tap c.i. pipe for serv. conn.	53 ea.	10.00	5.00	6.00
65. Drill c.i. pipe for serv. clamps for serv. conn.	43 ea.	20.00	10.00	9.00
66. Tapped plugs in 4-in. c.i. bells for serv. conn.	8 ea.	5.00	5.00	4.00
67. As above, for 6-in. bells	1 ea.	6.00	10.00	5.00
68. Fire hydrants	49 ea.	100.00	85.00	70.00
69. Street washers	8 ea.	15.00	20.00	15.00
70. Steel manhole frames, covers, and c.i. steps in valve chamb.	L.S.	200.00	150.00	200.00
71. Furn., lay, joint vit. clay tile fittings	L.S.	1,100.00	550.00	1,100.00

WATER MAIN, BOMBER BASE OKLAHOMA

OWNER: War Department, U. S. Engineer Office, Tulsa, Okla.

PROJECT: Construction of booster pumping station, five miles of 10-in. cast iron water main, one reinforced concrete meter box, and supply pumping station, Oklahoma City, Okla. Site of work is from S.W. 29th St. and Miller Ave., Oklahoma City, to proposed site of Bombing Squadron base on west side of Oklahoma City Municipal Airport.

CONDITIONS: Contractor to furnish all materials and complete work in six weeks. Rail and highway transportation facilities available. Wage rates are: skilled labor, $1.25 per hr.; semi-skilled, 75c.; and common, 40c.

BIDS: Nine bids were received January 14, 1941, ranging from $93,310 to $136,895. Engineer's estimate, $85,847.

LIST OF BIDDERS:

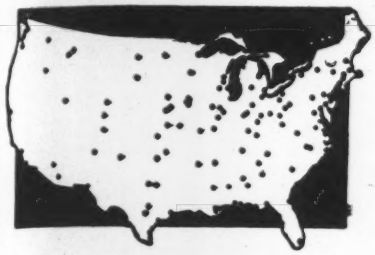
1. Sherman Machine and Iron Works, Oklahoma City, Okla. (contract) $93,310
2. Earl W. Baker & Co., Bethany, Okla. 99,600
3. B. & M. Constr. Corp., Oklahoma City, Okla. 103,350
4. Ottinger Bros., Oklahoma City, Okla. 104,790
5. R. E. Mattison & Co., Britton, Okla. 105,491
6. M. A. Swatek & Co., Oklahoma City, Okla. 106,807
7. R. M. Wolfe Plumbing & Heating Co., Oklahoma City, Okla. $199,643
8. Standard Paving Co., Tulsa, Okla. 117,332
9. Mittry Bros. Constr. Co., Los Angeles, Calif. 136,895

Item	Quan.	Unit Prices (1)	(2)	(3)
1. 10-in. cast iron water main	27,000 l. f.	$2.35	$2.50	$2.30
2. Booster pumping station	L.S.	12,195.00	12,700.00	19,000.00
3. Supply pumping station	L.S.	17,190.00	18,800.00	21,000.00
4. Concrete meter box	L.S.	475.00	600.00	1,250.00

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

Location of ENR Correspondents



Symbols and Abbreviations Include:

♦ Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply — Unclassified
Sewers, Waste Disposal — Latin America
Bridges, Grade Cross'gs — Public Buildings
Streets & Roads — Commercial Buildings
Earthwork, Waterways — Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads):

BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: All low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

WATER SUPPLY

PROPOSED WORK

Conn., Norwich—Bd. Water Comrs., M. Kane, City Hall, Norwich, filtration plant, Deep River Reservoir, Deep River. Over $15,000. Buck, Seifert & Jost, 112 E. 19 St., New York, N. Y., engrs. CD 5/15—ENR 5/23.

Fla., St. Petersburg—G. Leland, city mgr. in charge, exten. c.i. watermains, 38 Ave. from 28 St. to Park St. $70,000.

Ind., Columbus—Bd. P. Wks., F. C. Owens, chn., City Hall, preliminary survey and estimates submitted, WW imprvs. $400,000. Russell B. Moore & Co., 930 Indiana Pythian Bldg., Indianapolis, consult. engr. CD 6/25—ENR 6/27.

★**Ind., Oaklandon**—Indianapolis Water Co., 113 Monument Circle, Indianapolis, dam and reservoir, near here, on Fall Creek and Fort Harrison. $1,600,000.

Ia., Centerville — E. Hanson, clk., WW imprvs., laying mains in 10 streets. $27,384.

Ia., Lorimore—WW sys. $30,000.

Ia., Orient—City, F. G. Mason, mayor, WW sys. $20,000.

Kan., Solomon—R. Banks, Mayor, WW imprvs., new wells, well houses, connecting lines, replacement portion present mains with c.i. pipe. $30,000. Will apply to WPA. Paulette & Wilson, Salina, engrs.

Mo., Independence — Independence Waterworks Co., c/o H. A. Gallagher, supt., exten. watermain from Independence to Lake City Arms plant. Approx. $200,000.

N. J., Orange—Watermain. $56,992. WPA. K. Crane, Town Hall, Orange, WPA and Town engr.

★**O., Delaware**—Scioto-Sandusky Conservancy Dist., surveys reservoir, which would provide for flood control on Olentangy River, north of Delaware, also pool to augment Delaware water supply. $4,000,000-$5,000,000.

Okla., Tulsa — Voted bonds, WW exten. $275,000. W. Wooten, City Hall, engr. CD 3/13.

Pa., Altoona—E. Stall, dir. in charge, City Hall, additional exten. c.i. watermains, etc. Over $20,000. B. H. Schwab, City Hall, engr.

Pa., Erie—Bureau of Water, J. S. Dunwoody, supt., additional extens. c.i. watermains to sites various housing projects in greater Erie area, also in conjunction with State Park Comn. plans 6 in. water line to Peninsula State Park, west of here. Over $25,000. A. N. Aitkin, city engr.

★**Pa., Phila.**—Bureau of Water, Dpt. P. Wks., J. H. Neeson, dir., City Hall Annex, bids in April, WW imprvs. at 6 pump. stations. $10,000,000.

Pa., Reading—Exten. c.i. watermains from city line into suburban development on Old Wyomissing and other roads. $15,000-$18,000. R. S. Chubb, city engr.

Tex., Fort Worth—White Settlement Community, Fort Worth, WW sys., new bomber plant community, 600 ft. well and distr. sys. $40,000. J. J. Rady, Majestic Bldg., engr.

★**Tex., Galveston** — B. Harris, mayor, increasing water supply imprvs., drilling, completely developing several deep water wells, providing large storage facilities, probably steel, concrete storage. $1,000,000.

Tex., Houston—Carl and Herman Detering, Esperson Bldg., Houston (Woodridge Co., developers), 126 acre sub-division development program, Park Place, incl. water lines, gas lines, electric, etc., on new super-highway between Houston and Galveston. $60,000.

Tex., Pasadena—J. A. Campbell, c/o Union National Bldg., Houston, and Pasadena, utility program for residential sub-division, incl. water, sanitary sewers, natural gas, electric, etc. $75,000.

Tex., Vernon—J. V. Owen, mayor, soon lets contract water lines, sanitary sewers, electric distr. lines, for airport. $50,000 bonds voted.

Tex., Wichita Falls—B. Miller, city mgr., water facilities. $125,000.

Va., Petersburg—State Hospital Bd., Richmond, underground water distr. sys. at State Hospital for Negroes. Over $15,000. Wiley & Wilson, Lynchburg, engrs.

★**Wash., Bremerton**—Exten. mains, imprv. sources. $541,000. Federal funds sought. C. C. Casad, City Hall, engr.

Wash., Moxee—WW sys. $40,000.

Wash., Raymond—3¼ mi. exten. water sys. $18,000. J. E. Buckingham, City Hall, engr.

Wis., Hurley—R. L. Bertagnoli, city clk., 500,000 gal. concrete reservoir. G. Paul, Hurley, engr. CD 1/3—ENR 1/9.

Wis., Wausau—J. L. Brown, city clk., addn. and alterations at filtration plant and deep well. A. E. Becher, city engr.

BIDS ASKED

Bids Asked April 7

Md., Towson—Comrs. Baltimore Co., Court House, installing 11,256 lin. ft. 6- to 12-in. c.i. watermain.

Bids Asked April 9

†**Md., Cheltenham**—Yards & Docks, Navy Dpt., Constitution Ave. and 18 St. N.W., Wash., D. C., water supply and sewage disposal sys. at Naval Radio Station.

†**Md., Hyattsville** — Washington Suburban Sanitary Comn., Owens Ave., Contr. 119-W and S, watermains and sewers; adv. ENR 4/3.

N. C., Williamston—J. L. Hassell, mayor, deep well, pump. equip., pump house. H. L. Rivers, Greenville, engr.

Bids Asked April 10

Wis., Waupun—Water & Light Comn., 500,000 gal. rein.-con. underground reservoir. J. Donohue Eng. Co., Sheboygan, engr. CD 3/18.

Bids Asked about April 30

Tex., Stephenville—J. W. Clement, mayor, water softening and filtration plant. $25,000. Tentative date. Freese & Nichols, Capps Bldg., Fort Worth, engrs. CD 11/13—ENR 11/14.

LOW BIDDERS

Ariz., Tucson—U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif., Mar. 25, water pump plant and appurtenant facilities at airport, for City, from F. Ziebarth, Security Bldg., Long Beach, Calif. **$28,890.** CAA. CD 3/19.

Calif., San Francisco—Public Utility Comn., City Hall, Mar. 25, Central pump. sta. addns., Sloat Blvd., between 22 and 23 Aves., San Francisco Water Dpt., Spec. 281, from M. J. Lynch, Barnevald and Oakdale Sts. **$16,085.** CD 3/19.

N. C., Rocky Mount—J. R. Robinson, mayor; and L. B. Aycock, city mgr., Mar. 18, WW imprvs., Sect. 1, constructing plant, sedimentation basins, etc., from Wm. Muirhead Constr. Co., Durham, **$108,740**; filters, from A. H. Guion & Co., Kinney Bldg., Charlotte, **$64,990.** CD 3/6—ENR 3/13.

N. C., Winston Salem—Forsyth Country Club, Mar. 26, water dir. and irrigation sys., from Boyd & Goforth Inc., 617 N. Smith St., Charlotte. **$42,800.** J. E. Ellerbee, Winston Salem, engr.

CONTRACTS AWARDED

Conn., Danbury—Water Dpt., 53 River St., WW sys. imprvs., incl. water shed imprvs., ground work to protect water supply, at municipal reservoir, **WPA. $100,488.**

★**Fla., Key West**—Florida Aqueduct Comn., Key West, aqueduct from Florida mainland to Key West, furnishing pipe, to Youngstown Sheet & Tube Co., Stambaugh Bldg., Youngstown, O. and American Rolling Mill Co., Oliver Bldg., Pittsburgh, Pa., est. **$2,000,000.** Total est. $3,000,000. L. L. Lee & Associates, Miami, engrs. E. T. Killam, 142 Maiden Lane, New York, N. Y., consult. engr.

Idaho, Moscow—50,000 gal. steel tower water tank, to Pittsburgh-Des Moines Steel Co., 3414 Neville Island, Pittsburgh, Pa. **$14,870.** Bids 3/24. CD 3/11—ENR 3/13.

Mass., Leominster — W. G. Classon, supt. Water Dpt., exten. watermains, replacements, to Warren Pipe Co. of Mass., 75 Federal St., Boston. $15,000. CD 2/27—ENR 3/6.

Mich., Ecorse—Ecorse Twp., WW distr. sys., incl. c.i. pipe, valves, specials, etc., to A. Arcari, 15100 Goddard Rd., Detroit. **$110,000.** CD 2/14—ENR 2/20.

Minn., Baudette—R. J. Flynn, city clk., exten. water and sewerage sys., **WPA. $60,000.**

Neb., Norfolk—Town, A. S. Mitchell, mayor, rein.-con. water reservoir and street paving. **WPA. $41,023-$45,000.** H. H. Tracy, city engr.

N. J., Newark—Water Dpt., City Hall Annex, c.i. watermains, excav., sheeting, etc., **WPA. $43,500.** W. Banks, City Hall Annex, WPA and city engr.

O., Cleveland—C. B. Patterson city purch. agt., watermain in W. 140 St. (Bunts Rd.), to Kalill Co., 4611 W. 150 St. **$140,350.** Bids 3/21, awarded 3/26. CD 3/12.

Ore., Warrenton—Reconstructing water sys., replacing wooden headworks dams with concrete dams, constructing large settling basin, rehabilitating pipeline from headworks to here (15 mi.), **WPA. $430,600.** C. Barlow, city mgr.

†**S. C., Fort Jackson (Columbia)**—Con. Q.M., Ft. Jackson, filtration plant, to V. B. Higgins & Co., Greensboro, N. C. **$109,940.** Bids 3/18. Tomlinson Eng. Co., Columbia, engrs.

Tex., Houston—River Oaks Corp., River Oaks Blvd., WW mains, hydrants, valves, c.i. pipe fittings, etc., to Gulf Paving Co., 707 Drennan Dr. **$21,000.** H. A. Kipp, 2455 Pine Valley Dr., engr.

Wis., Gilman—WW sys., **WPA. $180,000.**

N. S., Halifax—Dpt. National Defense for Sea, Ottawa, Ont., water and sewer service at new Embarkation Depot, to Atlantic Constr. Co. Ld., Roy Bldg., **$23,000.**

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Fresno—1,347 lin. ft. 6 and 8 in. vitr. sewers, manholes, Monte Vista Village area.

Calif., Oroville—Oro Vista Sanitary Dist., c/o City Clerk, sewerage sys. Over $25,000.

Calif., San Diego—Sludge digestion treatment plant, north of Destroyer Base, Bay Front. $456,760. WPA. B. W. Phelps, City Hall, asst. city engr.

Ill., Henry—Defeated proposal to construct sewerage sys. Over $25,000. CD 3/4—ENR 3/6.

Ill., LaSalle—H. M. Orr, mayor, sewage treatment plant, $225,000. Bond election soon. C. DeLeuw & Co., 20 N. Wacker Dr., Chicago, engrs.

Ia., Muscatine—H. H. Hanson, city clk., sewage disposal plant and sewers, $500,000. Stanley Eng. Co., Muscatine, eigr. CD 1/7—ENR 1/9.

Ia., Wapello—C. M. Donaldson, city clk., sanitary and storm sewers. $74,582. Consoer, Townsend & Quinlan, 211 W. Wacker Dr., Chicago, Ill., engrs.

Mich., Royal Oak—Oakland Co. Drain Comn., Pontiac, deepening Red Run Creek

SEWERS, etc. (Proposed Work, Cont'd.)

from Twelve Mile Rd. to Ryan Rd., Royal Oak Twp. $45,000. E. L. Clark, Pontiac, drain comr.

Minn., Forest Lake—O. Struble, city clk., sewage disposal plant. $50,000. WPA. Burlingame & Williams, Stillwater, engr.

Mo., Gardenville (St. Louis P. O.)—Gardenville Sanitary & Roof Water Sewer Dist. of St. Louis County, c/o R. Horton, engr., 745 Atlanta Ave., Webster Groves, $35,000 bond election Apr. 8, sanitary and roof water sewers.

Mo., Vinita Park (St. Louis P. O.)—Vinita Park Sewer Dist. of St. Louis Co., c/o Sverdrup, Parcel & Wood Smith, engrs., Railway Exch. Bldg., St. Louis, $43,000 bond election Apr. 8, sanitary sewerage sys.

N. J., North Bergen—Sheeting, 48 in. storm sewer, $146,997. WPA. C. Malstrom, Orange and N. 6 Sts., Newark, WPA and owner's engr.

N. Y., Salamanca—Dpt. P. Wks., City Hall, trunk line sewer under bed of Allegheny River. Over $50,000. C. C. Cheney, c/o City, engr.

O., Cleveland—C. B. Patterson, city purch. agt., 5,000 ft. 60 in., 2 ring, brick sewer tunnel, Center St. and Riverbed Rd. to Carter Rd. $200,000. E. C. Richardson, 517 City Hall, engr.

★**Okla., Oklahoma City**—Sanitary sewers to provide for airport bomber squadron station. $500,000. R. Lee, city engr.

Okla., Tulsa—Surveys sanitary sewer lines, Adams addn., 21 and Harvard Sts. $35,000. W. Wooten, City Hall, engr.

Okla., Tulsa—Voted bonds, sanitary sewerage exten., sewage disposal plant. $225,000. W. Wooten, City Hall, engr. CD 3/13—ENR 3/6.

Pa., Ebensburg—Boro Council, 24 in. sewers, concrete encasement for sewer over stream, east end of boro. $25,000.

Pa., Williamsport—R. R. Rall, city councilman in charge, 5,000 ft. sanitary sewers. Over $25,000. L. Mussina, city engr.

Tex., Wichita Falls—B. Miller, city mgr., sanitary sewer facilities. $150,000.

BIDS ASKED

Bids Asked April 9

†**Md., Hyattsville**—Washington Suburban Sanitary Comn., Owens Ave., Contr. 120-S, sewers; adv. ENR 4/3.

Bids Asked April 10

N. C., Rocky Mount—J. G. Robinson, mayor, sewerage treatment plant. J. E. Sirrine & Co., Greenville, engrs

Bids Asked April 11

†**Utah, Wendover**—U S. Eng., 751 Figueroa St., Los Angeles, Calif., sewage treatment plant, appurtenances at Wendover Bombing Range. Over $25,000.

Bids Asked April 24

Ill., Chicago—Sanitary Dist. of Chicago, 910 S. Michigan Ave., West-Southwest Sewage Treatment Works, Div. P, substructure appurtenant structures for exten. pump and blower and sludge disposal bldg., and Div. C, sludge drying equip. R. A. Woodhull, chn. Com. on Finance; adv. ENR 4/3.

Bids Asked

N. Y., Kew Gardens — President Queens Boro, Boro Hall, 120-55 Queens Blvd., combined sewer and appurtenances in 22, 21, 65, 69, 67, 24 and 23 Aves., 165, 166, 167, 168, 164 and 146 Sts., Union Turnpike, Surrey Pl., 80 Rd., etc.

LOW BIDDERS

★**N. Y., Jamaica**—Dpt. P. Wks., Municipal Bldg., New York, Contr. 10, March 28, Contr. 10, buildings, equip., Jamaica Sewage Treatment Works, from Caye Constr. Co. Inc., 356 Fulton St., Brooklyn, **$1,245,563.** CD 3/18—ENR 3/20.

N. C., Rocky Mount—J. Q. Robinson, mayor and Bd. Aldermen, Municipal Bldg., March 20, sewer outfall lines, from Boyle Constr. Co., Sumter, S. C., **$209,430.** Est. $240,000. CD 3/5—ENR 3/13.

CONTRACTS AWARDED

†**Mich., Mt. Clemens**—U. S. Eng., 605 Federal Bldg., Detroit, constructing rein.-con. sewers and outlet structure to sys. for Army Air Corps Field, Selfridge Field, incl. manholes, etc., to Gargaro Co., 40 Seven Mile Rd. E., Detroit, **$45,890**; activated sludge sewage treatment plant to F. C. Atlewed, Transportation Bldg., Detroit, **$98,950.**

Mich., Warren—Warren Twp., Warren, 3,224 lin. ft. 72 in. concrete interceptor sewer, along 9 Mile Rd. from Mound to Van Dyke Rds. **WPA. $123,000.** C. A. Sirrine, State Operations Dir., in charge.

N. J., Bridgeton—Sanitary sewerage sys. **WPA. $53,970.** G. R. Swinton, 930 Atlantic Ave., Atlantic City, owner's and WPA engr. CD 1/31—ENR 2/6.

N. J., Montclair—Sheeting, backfilling, rein.-con. storm sewers, **WPA. $53,500.** J. B. Hayden, Town Hall, town and WPA engr.

N. J., Newark — Sanitary rewers. **WPA. $53,100.** J. Costello, City Hall, WPA and owner's engr.

Wis., Muscoda—L. A. Godfrey, village clk., sewage treatment plant, **WPA. $65,000.** CD 3/4—ENR 3/6.

Wis., Readstown—R. Sheffield, city clk., sewage disposal plant, watermains, **WPA. $270,000.**

BRIDGES, GRADE CROSSINGS

PROPOSED WORK

Calif., Butte City—State, swing span bridge over Sacramento River. $400,000 with approaches. C. H. Purcell, P. Wks. Bldg., Sacramento, state hy. engr.

N. J., Laurel Springs—Camden Co., Court House, Camden, rein.-con. Garden Lake Bridge, clearing stream. $50,300. WPA. H. Taylor, Court House, Camden, co. and WPA engr.

North Carolina — State Hy. & P. Wks. Comn., Raleigh, overhead bridge over tracks of Atlantic Coast Line R.R., U.S. Rt. 301, at Dunn, Proj. 4373, Harnett Co. Over $25,000. W. V. Baise, Raleigh, engr.

N. C., High Point—2 bridges, 1 at Willobrook and other at Perry Sts. $84,000. S. A. McBee, city engr.

★**Ohio**—State, H. G. Sours, hy. dir., Columbus, grade separation, Richmond St. over New York Central R. R., in Painesville, Lake Co., $300,000; grade separation work, Bulkley Blvd., Cleveland, $400,000. F. Williams, 10111 Bway., Cleveland, div. engr.

O., Cleveland—Bd. Comrs. Cuyahoga Co., G. H. Stahler, clk., repairing steel, concrete work Brooklyn-Brighton bridge, $50,000; Detroit-Superior bridge, $100,000; and Detroit-Rocky River Bridge, $50,000. J. O. McWilliams, Standard Bldg., co. engr.

O., Cuyahoga Falls—Summit Co., Akron, concrete, steel bridge over Cuyahoga River, Broad St. $97,000. A. F. Ranney, Akron, co. engr.

O., Mansfield—Richland Co., bids about 60 days, new bridge over Touby's run on North Main St. $25,000-$30,000.

Ok'ahoma — Highway Dpt., Capitol, Oklahoma City, made preliminary plans 4 lane concrete and I-beam bridge over Sulphur Creek, Sulphur, Murray Co. $35,000. V. T. Moon, Capitol, Oklahoma City, engr.

Okla., Carnegie—Hy. Dpt., Capitol, Oklahoma City, preliminary plans concrete pier and I-beam bridge overe Washita River, north of here. $32,000. V. T. Moon, Capitol, Oklahoma City, engr.

Okla., Oklahoma City — Preliminary plans rebuilding ⅓ the length of Exchange Ave. viaduct. $50,000. R. Lee, City Hall, engr.

Okla., Oklahoma City—Hy. Dpt., Oklahoma City, preliminary plans, concrete pier and I-beam bridge, feeder road, West End Ave. $48,000. V. T. Moon, Capitol, engr.

Pennsylvania—State Hy. Dpt., I. L. Hughes, secy., State Capitol, Harrisburg, altering underpass carrying State Hy. Route 169, under Delaware, Lackawanna and Western R.R., Pocono Twp., Monroe Co. $30,000. T. C. Frame, c/o owner, ch. engr.

Pennsylvania—Pennsylvania Hy. Dpt., I. L. Hughes, secy., State Capitol, Harrisburg, grade crossing at point where State Hy., Route 48025, as relocated, will cross Lehigh Valley R. R., Tatamy, Northampton Co. $28,346. T. C. Frame, c/o Hy. Dpt., ch. engr.

Washington—State Hy. Dpt., Olympia, suspension bridge over Wind River chasm, on road to Government Springs, Skamania Co. $100,000 funds allotted. J. A. Davis, Olympia, acting hy. dir.

★**Washington** — State Hy. Dpt., Olympia, bridge between Longview and Kelso, Cowlitz Co. $500,000. State allocated $250,000 to be matched by City, County or Federal funds. J. A. Davis, Olympia, acting hy. dir.

BIDS ASKED

Bids Asked April 6

Conn., Waterbury—Dpt. Streets, Sewers & Water, 114 Benedict St., rigid steel girder hy. bridge over railroad tracks, Baldwin St. $62,000. CD 3/13—ENR 3/20.

Bids Asked April 8

West Virginia—State Road Comn., D. Harper, secy., Charleston, Black Fork Bridge 1587, four 65 ft. and four 80 ft. steel I-beam spans on concrete substructure FAP FA 170-D(1), Tucker Co.

Bids Asked April 14

†**Calif., Los Angeles**—U. S. Eng., 751 S. Figueroa St., 7 span, rein.-con. deck girder bridge, supported on concrete column bents, stringers and cross braces of structural steel, etc. in connection with Sepulveda Dam, Balboa Ave., at Los Angeles River. Over $25,000.

Bids Asked April 15

Idaho—A. C. Merritt, comr. P. Wks., Boise, concrete, steel structure under track of Northern Pacific Ry. Co., concrete pedestrian underpass under highway and four lane concrete paving 2.292 mi. Coeur D'Alene-Yellowstone Trail, Kootenai Co.

Indiana—State Hy. Comn., J. D. Adams, chn., Indianapolis, 8 span, 340 ft. rein.-con. girder bridge over Pennsylvania R.R. and Public Service Co. of Indiana (Interurban) State Rd. 31, 2 mi. north of Columbus, Bartholomew Co., Federal project; 3 bridges, rein.-con. girder 1 span, 40 ft. long over Bush Creek, 3 span, 275 ft. steel beam and steel truss, over Cliffty Creek, 1 span, 36 ft. rein.-con. girder, over Cliffty Creek; rural districts, 2 bridges, one 175 ft. steel truss span over Haw Creek, 6 span, 385 ft. rein.-con. girder steel beam, steel truss span bridge over Flat Rock Creek, rural dist.; all forgoing Bartholomew Co.; 4 2 span continuous rein.-con. slab bridge, 44 ft. long (abutments exten.) over Bull Creek, northeast of Huntington, Huntington Co.; 4 span, 316 ft., rein.-con. girder and steel truss bridge over south fork of Wildcat Creek, rural dist., Tippecanoe Co.; one 150 ft. steel truss span bridge over Salamonie River, east of Portland, Jay Co.; one 65 ft. rein.-con. arch span, over Candy Creek, and one 28 ft. rein.-con. girder span bridge over County Ditch, near Chandler, Warrick Co.; 2 bridges, 4 rein.-con. arch spans, 260 ft. long over Wabash River, east of Berne; 3 rein.-con. slab spans, 60 ft. long over Wabash River Overflow, east of Berne, Adams Co.; 3 deck truss span bridge, 240 ft. long over Salt Fork Creek, southeast of Guilford, Dearborn Co.; one rein.-con. slab span bridge, 20 ft. long, 3.7 mi. south of Plainfield, Hendricks Co. E. B. Lockridge, c/o State Hy. Comn., ch. engr.

Bids Asked April 16

†**Tenn., Godwin**—Tennessee Valley Auth., Knoxville, C. H. Garity, dir. Purchases, designing, furnishing, erecting suspension bridge alternate for truss bridge, 240 ft. over Rutherford Creek, near here; adv. ENR 4/3.

Bids Asked April 17

†**California** — Bureau Reclamation, Customhouse, Denver, Colo., furnishing, del., structural steel for highway bridges over Madera Canal, Station 353 plus 40, Central Valley Project, Spec. 1501-D.

Bids Asked April 30

Louisiana—C. S. Kirkpatrick, ch. engr. New Orleans, Texas & Mexico Ry. Co., 204 Union Sta., Houston, Tex., rein.-con. trestles on timber found. piles, 18,750 ft. long in floodway and 312 ft. in east filled approach for high level crossing of New Orleans, Texas & Mexico Ry. Co., over Morganza Floodway between East Krotz Springs and Lottie, Pointe Coupee Parish; adv. ENR 4/3.

LOW BIDDERS

Conn., Hartford—State Hy. Dpt., W. J. Cox, comr., State Office Bldg., Mar. 24, rein.-con. bridge, grading 1,600 ft., retaining walls, cribbing, Park River to State St., from Mariani Constr. Co., 222 Forbes Ave., New Haven. **$248,886.** CD 3/17—ENR 3/20.

Florida—State Road Dpt., Tallahassee, Mar. 27, 2 bridges, 5 culverts, Clay and Bradford Counties, from W. L. Cobb Const. Co., 1 Ave. and 22 St., Tampa. **$90,815.** CD 3/18—ENR 3/20.

Kentucky—Dpt. Hys., Frankfort, Mar. 24, superstructure bridge, Daviess Co., from Vincennes Steel Corp., Vincennes, Ind., **$55,558***** substructure and superstructure, approaches, same bridge, from Ellis, Kelly & Co., Owensboro, **$108,273***** overhead bridge, approaches, Hickman Co., from R. L. Frazer & Co., Kevil, **$36,118.** CD 3/10—ENR 3/13, under Roads.

Michigan—State Hy. Dpt., Escanaba, Mar. 26, bridges, Delta Co., from J. K. Jackson, R.R. 1, Ironwood, **$49,253**; Chippewa Co., from W. J. Meagher, 17 and Water Sts., Bay City, **$50,887.** CD 3/19.

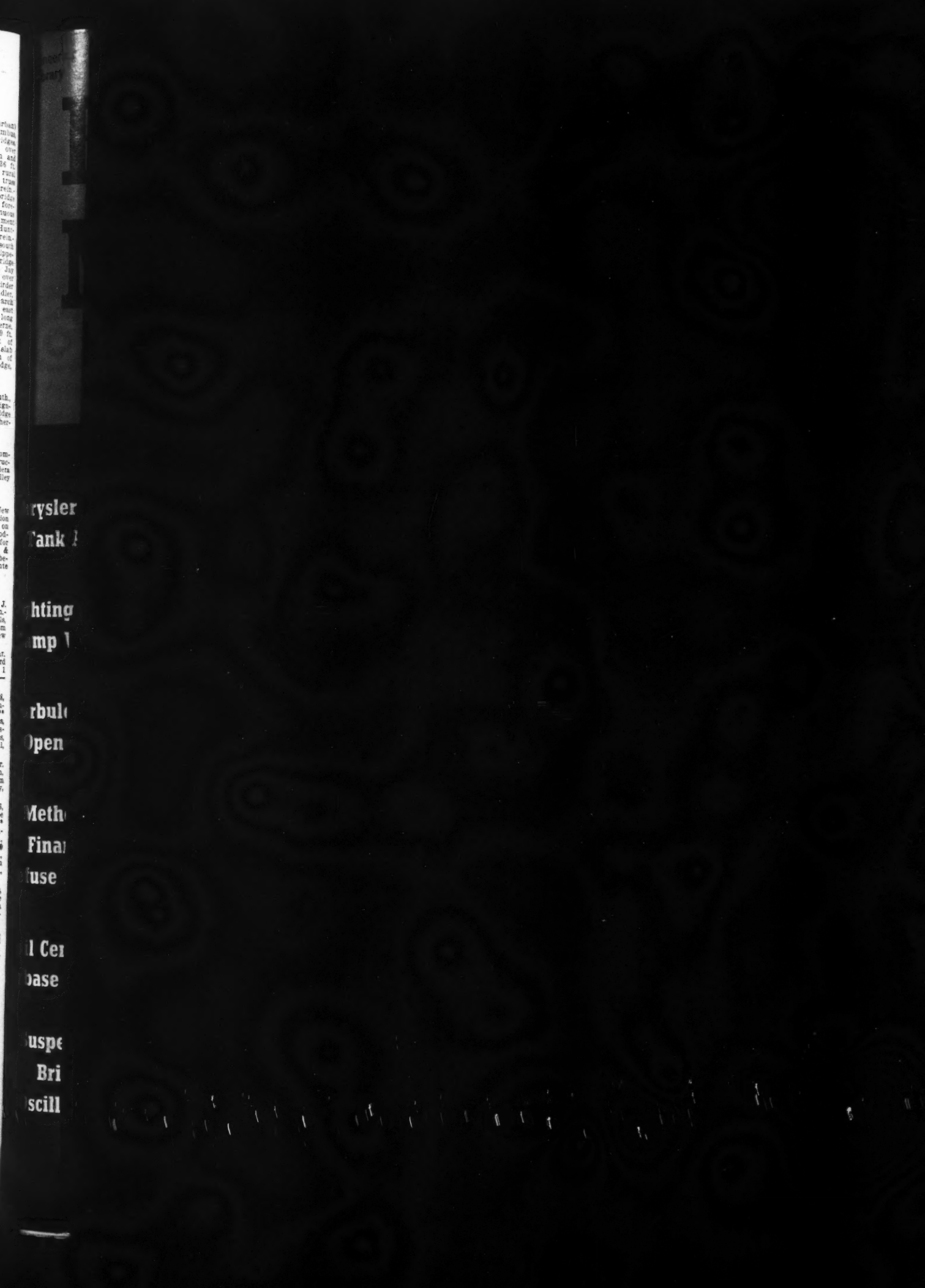
Michigan—State Hy. Dpt., Lansing, Mar. 26, bridge, Van Buren Co., from Walter Toebe & Co., 618 Kipling Blvd., Lansing, **$85,694***** St. Clair Co., from J. H. Baker & Son, Boynton Block, Port Huron, **$27,723***** Cass Co., from C. Goodwin, 552 Ely St., Allegan, **$43,600 ***** Allegan Co., from J. Hertel, 1138 Fisk St., Grand Rapids, **$83,980***** Saginaw Co., from Bridgeport Core Sand Co., 125 Davenport St., Saginaw, **$60,094.** CD 3/19.

Pennsylvania—At office I. Lamont Hughes, secy. Hy. Dpt., Harrisburg, Mar. 28, plate girder overpass bridge, Lebanon Co., from C. W. Good, Inc., 726 Columbia Ave., Lancaster. **$355,197.** CD 3/19, under Roads.

South Dakota—State Hy. Comn., Pierre, March 25, bridges, S.N. FAP 193 B (2) Deuel Co., from W. Bonesteel, Wagner and A. L. Hyde, Watertown, **$31,001.** CD 3/12, under Roads.

Texas—D. C. Greer, engr. State Hy. Dpt., Austin, March 25, T. and N. O. R. R. underpass and roadway approaches, Fayette Co., from R. D. Kitchens, 608 W. Monroe St., Austin, **$85,712,** est. $86,000; P. and S. F. Ry. underpass, roadway approaches, Gray Co., from Bell & Braden, Herring Hotel Bldg., Amarillo, **$121,150,** est. $122,000. CD 2/14.

CONTRACTS AWARDED

New Hampshire—State Hy. Dpt., Concord, 100 ft. plate girder bridge, approaches over Smith River, Merrimack Co., to Thibodeau Const. Co., Wolfeboro. **$41,818.** Est. $45,000. Bids 3/21. CD 3/10—ENR 3/13.

N. Y., Catskill—Hy. Dpt., Greene Co., Catskill, reconstructing 5 bridges and repairing roads in towns of Ashland, Athens, Cairo, Catskill, Coxackie, Dunham, Greenville, Hunter, Jewett, Prattsville and Windham. **WPA. $130,000.**